3M Brookings Title V Operating Permit Renewal



3M Brookings 601 22nd Avenue South Brookings, South Dakota 57006

Submittal Date: March 9, 2016

Permit No.: 28.9901-06

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3M Brookings Title V Operating Permit Renewal Application

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Section 1.0

Summary of Requested Changes

3M Brookings Summary of Requested Changes

Units Newly Subject to Federal Rules

As part of a comprehensive, multi-facility audit by 3M, three units were identified as being subject to a National Emission Standard for Hazardous Air Pollutants (NESHAP). The audit was performed pursuant to a voluntary Corporate Audit Agreement between 3M and U.S. EPA, conducted under the auspices of EPA's "Incentives for Self-Policing: Discovery, Disclosure, Correction and Prevention of Violations," ("Audit Policy") 60 Fed. Reg. 66706 (December 22, 1995) (see http://www.epa.gov/compliance/incentives/auditing/auditagree.html). Initial notifications have been submitted to notify SD DENR and the U.S. EPA of these compliance obligations.

Addition of ECG Line (Unit #34) and Attest Coater (Unit #35)

The ECG Line and Attest Coater were identified as being subject to National Emission Standards for Hazardous Air Pollutants (NESHAP) Subpart JJJJ: Paper and Other Web Coating. Although there are no volatile organic compound (VOC) or hazardous air pollutant (HAP) emissions associated with either of these lines, due to being subject to the NESHAP, these units no longer qualify as insignificant activities under South Dakota rule 74:36:05:04.01.

M4 Coating Line (Unit #4d) Newly Subject to NSPS FFF

The M4 Coating Line (Unit #4d) was identified as being subject to Standards of Performance for New Stationary Sources (NSPS) Subpart FFF for Flexible Vinyl and Urethane Coating and Printing, when running certain products.

Insignificant Activities

The list of insignificant activities has been revised and updated to reflect changes made to the plant since the last Title V renewal application. These changes include:

- Removal of the cooling towers as they are now considered emission units (Unit #24);
- The list of insignificant corona treaters has been updated to reflect units that are now considered significant (Units #32, #33, and #36), and to add new insignificant units;
- The limited use generator has been removed from the facility;
- Packaging Preparation and Labeling has been re-named Inkjet Label Printing for clarity;
- The Pro-Pak Area has been split into two separate entries, with the manufacturing process being listed under Tegasorb Mixer & Extruder;
- The 24J Solventless Coater has been removed, as this activity is captured under permitted Emission Unit #17;
- The Laser Engravers have been removed from the facility; and
- Added batch mixers associated with the 4K and 6K Makers.

Emission Unit Changes

- Unit #13a, 1735 Film Lab. Please remove the manufacturer name from the control device description as this unit
 has been replaced, and to facilitate future like-kind replacements;
- Unit #28, Boiler #4, is currently permitted to burn natural gas or distillate oil. The facility has decided to not
 pursue this option; the boiler is not capable of burning distillate oil. 3M shall track natural gas usage in order to
 comply with NSPS Subpart Dc. Permit requirements that are no longer applicable have been identified below
 and in the enclosed permit mark-up:
 - Distillate fuel usage limit in Section 6.6;
 - Sulfur content limits in Sections 6.13, 14.2, 14.4, and 14.8; and
 - o Performance test requirements in Sections 14.4 and 14.5.

- Unit #30, Coating Line 2008 PCT Engineered Systems Membrane Imbibing Station was never installed, please remove.
- Unit #36, M2 Coating Line Corona Treater
 - Upon review of the capacity of the corona treater on the M2 Coating Line, it has been determined that
 potential emissions from this unit exceed the insignificant activities threshold, and should be added to
 the permit.
 - Emissions from this unit consist of ozone, which is presented as a surrogate for VOC. The capacity of the unit (Two (2) 5 kW treaters, or 10 kW) is multiplied by the manufacturer-supplied emission factor of 0.072 lb/kW-hr, for a total potential to emit of 3.15 tons/yr.
 - This unit was previously permitted, then removed in 1999, as it was believed the treater should be considered as two, separate 5 kW units. 3M believes it would be more appropriate to consider the two 5 kW treaters that operate in tandem, as one emission unit; therefore, potential emissions exceed the insignificant activities threshold and should be added to the list of permitted emission units.

Emission Calculations

- The overall control efficiency for the regenerative thermal oxidizer has been updated based on the most recent stack test results. See emission calculations for details;
- Greenhouse gas emission calculations have been added;
- Ethylene oxide sterilization calculations have been corrected to reflect that there are six units in the 1735 lab, and to correct assumptions used to calculate emissions from the 1742 lab;
- Extrusion emissions were added for the 24J Extrusion Process;
- Emission rates were corrected for the 22J Extrusion Process to reflect the values determined during the 2002 stack test; and
- Emission calculation assumptions were updated for the maker lines.

Section 2.0

SD DENR Application Forms



Air Quality Permit Application Form Title V (Part 70) Operating Permit

General Information Form And **Certification of Applicant Form**

SEND ALL MATERIALS TO:

SD Department of Environment and Natural Resources Air Quality Program

523 East Capitol Pierre, South Dakota 57501-3181 (Please complete shaded areas - if you have questions call (605) 773-3151) A. Application Type Check the appropriate box: New 1 Renewal 1 Permit revisions: Modification ¹ Minor Amendment Administrative Amendment For existing permits being renewed or revised, provide existing permit number: 28.9901-06 ¹ – Applications for "New", "Renewal", and "Modification requires an application fee of \$125. The application fee is not applicable to ethanol plants. **B.** General Information 1. Facility name: 3M Company 2. Mailing address: 3M Center, Building 224-5W-03 City, state, zip code St. Paul, MN 55144 3. Facility location (if plant is portable, enter location at time of submittal): 601 22nd Avenue South, Brookings Street and city Legal description (if street address is unknown) (Quarter, Section, Township, Range) 4. Permit contact: Name/title Jill Blissenbach, Advanced Environmental Scientist

651-737-6528

Telephone number

Email address	jblissenbach@mmm.com						
5. Facility contact, if differe	nt than permit contact (Person to contact for arranging inspections):						
Name/title	Paul L. Peterson, EHS Engineer						
Telephone number	605-696-1445						
Email address	p-peterson@mmm.com						
6. Responsible official:							
Name/title	James Fay, Plant Manager						
Telephone number	605-696-1239						
Email address	jmfay@mmm.com						
corporation; general pa	ficial is defined as a president, vice president, secretary, or treasurer for a rtner or the proprietor for a partnership; and principal executive officer or elected official for municipal, state, federal or public agency.						
C. Plant Description							
c. Trant Description							
7. Standard Industrial Classic	fication Code (SIC code):						
Primary SIC code: 2672	Secondary SIC code (if applicable): 3089						
Please contact the	Department at (605) 773-3151 for assistance if SIC code is unknown.						
8. For a "New" application, briefly describe the operations at the facility, including raw materials and finished products. For a "Renewal" application, leave blank. For a revision, please describe the modification, minor amendment or administrative amendment:							

If additional space is needed to describe operations, please attach the additional paper to this

application and reference the attachment here.

D. Air Emissions Summary

Potential air emissions are calculated assuming the permitted unit operates 24 hours per day, 7 days per week, 52 weeks per year at its maximum design capacity. If air emissions are available, please complete the following table. Attach all available documentation used to calculate the potential air emissions such as a spreadsheet, software programs (i.e., Tanks 4.09), emission factors, calculations, MSDS sheets for all products containing volatile organic compounds and/or hazardous air pollutants, and other supporting documentation.

	Actual	Potential Controlled	Potential Uncontrolled
Pollutant	(tons per year)	(tons per year)	(tons per year)
PM10 ²	See attached		
PM2.5 ³			
Sulfur Dioxide			
Nitrogen Oxide			
Carbon Monoxide			
Volatile Organic Compounds			
Greenhouse Gases			
Hazardous Air Pollutants (if app	licable)		

² – PM10 means particulate matter 10 microns in diameter or less; and

Please contact the Department at (605) 773-3151 if assistance is needed for calculating emissions for the permitted units such as emission factors, clarifying what potential emissions are, efficiency for control equipment, or for any other questions.

E. Forms for Specific Equipment and Control Equipment

9. The following forms must be completed for each piece of specific equipment at the facility and submitted with this form:

Boiler, Turbine, or Furnace	Generators and Fire Pumps	Incinerator
Kiln or Dryer	Spray Booth	Storage Tank
Miscellaneous	Insignificant Activities ⁴	

⁴ – The "Insignificant Activities" form should be completed for each operation identified as an insignificant activity and exempt from permitting.

³ – PM2.5 means particulate matter 2.5 microns in diameter or less.

10. The following forms must be completed for each piece of specific air control equipment at the facility and submitted with this form:

Baghouse	Cyclone	Electrostatic Precipitator		
Thermal Oxidizer	Wet Scrubber	Miscellaneous		

F. Compliance Plan

If an existing emission unit(s) is not in compliance with the air quality construction permit, an existing Title V air quality operating permit, or an applicable federal regulation not covered by the permits, a proposed compliance plan shall be included with the application. The proposed compliance plan shall include a narrative description of the following:

- 1. What emission unit(s) are out of compliance;
- 2. The requirement(s) (i.e., statutes, air quality rules, permit conditions, federal regulations, etc.) the emission unit is not in compliance with at the time of submittal of this application;
- 3. How the facility intends to bring the emission unit(s) into compliance; and
- 4. A compliance schedule for when the emission unit(s) will achieve compliance with such requirements.

The compliance schedule must include a statement that progress reports will be submitted at least once every six months and must be at least as stringent as that contained in any judicial consent decree or administrative order to which the applicant is subject.

G. Certification of Compliance

I certify the following:

This application is submitted in accordance with the provisions of the South Dakota Codified Laws 34A-1 and Administrative Rules of South Dakota 74:36. To the best of my knowledge, after reasonable inquiry, the statements and information contained in the application and supporting documents are true, accurate, and complete. In accordance with South Dakota Codified Laws 1-40-27, I have also enclosed a completed Certification of Applicant form.

Signature:		
Print Name:	James Fay	Date
	Responsible Official	

STATE OF SOUTH DAKOTA

BEFORE THE SECRETARY OF

THE DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

IN THE MATTER OF THE APPLICATION OF)
) CERTIFICATION OF
3M Brookings)
) APPLICANT
STATE OF South Dakota)
)
COUNTY OF Brookings)

I, <u>James Fay</u>, the applicant in the above matter after being duly sworn upon oath hereby certify the following information in regard to this application:

I have read and understand South Dakota Codified Law Section 1-40-27 which provides:

"The secretary may reject an application for any permit filed pursuant to Titles 34A or 45, including any application by any concentrated swine feeding operation for authorization to operate under a general permit, upon making a specific finding that:

- (1) The applicant is unsuited or unqualified to perform the obligations of a permit holder based upon a finding that the applicant, any officer, director, partner, or resident general manager of the facility for which application has been made:
 - (a) Has intentionally misrepresented a material fact in applying for a permit;
 - (b) Has been convicted of a felony or other crime involving moral turpitude;
 - (c) Has habitually and intentionally violated environmental laws of any state or the United States which have caused significant and material environmental damage;
 - (d) Has had any permit revoked under the environmental laws of any state or the United States; or
 - (e) Has otherwise demonstrated through clear and convincing evidence of previous actions that the applicant lacks the necessary good character and competency to reliably carry out the obligations imposed by law upon the permit holder; or
- (2) The application substantially duplicates an application by the same applicant denied within the past five years which denial has not been reversed by a court of competent jurisdiction. Nothing in this subdivision may be construed to prohibit an applicant from submitting a new application for a permit previously denied, if the new application represents a good faith attempt by the applicant to correct the deficiencies that served as the basis for the denial in the original application.

All applications filed pursuant to Titles 34A and 45 shall include a certification, sworn to under oath and signed by the applicant, that he is not disqualified by reason of this section from obtaining a permit. In the absence of evidence to the contrary, that certification shall constitute a prima facie showing of the suitability and qualification of the applicant. If at any point in the application review, recommendation or hearing process, the secretary finds the applicant has intentionally made any material misrepresentation of fact in regard to this certification, consideration of the application

may be suspended and the application may be rejected as provided for under this section.

Applications rejected pursuant to this section constitute final agency action upon that application and may be appealed to circuit court as provided for under chapter 1-26."

I certify pursuant to 1-40-27, that as an applicant, officer, director, partner, or resident general manager of the activity or facility for which the application has been made that I; a) have not intentionally misrepresented a material fact in applying for a permit; b) have not been convicted of a felony or other crime of moral turpitude; c) have not habitually and intentionally violated environmental laws of any state or the United States which have caused significant and material environmental damage; (d) have not had any permit revoked under the environmental laws of any state or the United States; or e) have not otherwise demonstrated through clear and convincing evidence of previous actions that I lack the necessary good character and competency to reliably carry out the obligations imposed by law upon me. I also certify that this application does not substantially duplicate an application by the same applicant denied within the past five years which denial has not been reversed by a court of competent jurisdiction. Further;

"I declare and affirm under the penalties of perjury that this claim (petition, application, information) has been examined by me, and to the best of my knowledge and belief, is in all things true and correct."

Dated this day of	, 20	
Applicant (print)		
Applicant (signature)		
Subscribed and sworn before me this day of		, 20
Notary Public (signature)		
My commission expires:		

PLEASE ATTACH ANY ADDITIONAL INFORMATION NECESSARY TO DISCLOSE ALL FACTS AND DOCUMENTS PERTAINING TO SDCL 1-40-27 (1) (a) THROUGH (e).

ALL VIOLATIONS MUST BE DISCLOSED, BUT WILL NOT AUTOMATICALLY RESULT IN THE REJECTION OF AN APPLICATION

(SEAL)



Air Quality Permit Application Form Boiler Turbine or Furnace

This form is to be submitted, if necessary, along with the Title V (Part 70) Operating Permit or Minor Operating Permit. $(please\ complete\ shaded\ areas)$

1. Facility identification (i.e., Boiler #1, Unit #1, etc): Boiler #3													
2. Ma	nufa	cturer:	Tran	e Mu	rray					Manuf	acture o	late:	1979
3. Model number: N/A													
4. Ty	pe (i.	e., steam l	oiler,	simp	le cycl	e combustion	n tu	ırbin	e, generator	r, etc.)			
Stear	Steam boiler												
5. Ma	ıximı	ım design	ed ope	rating	g rate (name plate):							
				N/A	4		m	illio	n Btus per h	our hea	t input		
	or						ho	orsep	ower with	boiler ef	ficiency	/:	
	or						ki	lowa	itts with bo	iler effic	iency:		
6. Ch	eck t	he approp	riate bo	ox(es) for p	rimary and so	eco	ndar	y fuels:				
	Nati	ıral gas							Propano	e			
	Dist	illate oil				Sulfur conte	nt			Weight percent			
	Resi	idual oil				Sulfur conte	nt			Weight percent			
	Bitu	minous C	oal			Subbitumir	ou	s Co	al	Lignite Coal			1
Co	oal su	ılfur conte	nt			Weight per	cer	nt (Coal ash co	ntent		We	ight percent
X	Oth	er (please	specify	y)	Heat	recovery fro	m	the F	Regenerati	ve Ther	mal Oxi	dizer	exhaust gas
7. Ha	s a st	ack test be	een cor	nduct	ed (ch	eck appropri	ate	box))?	Ye	S	X	No
If a stack test has been conducted, please attach a copy of the most recent stack test report to this application. If the Department already has a copy of the most recent stack test, please specify the date of most recent stack test.													
Date	of mo	ost recent	stack t	est:									
Control Equipment: If applicable, types of air pollution control equipment (Examples: baghouse, cyclone, wet scrubber, electrostatic precipitator, thermal oxidizer, miscellaneous control device, etc.).													
None)												
D	lagga	aammlata	thoo	nnna	nniata	oin anality		mit	annliaatiar	. farm f	on oooh	trmo	of control

Please complete the appropriate air quality permit application form for each type of control equipment that controls air emissions from this operation.

Boiler Turbine or Furnace Application Form

Stack Information: If this application is a renewal, contact the air program. We may have this information. **STACK BOILER3-1** 678,269.157 X- Coordinate or Easting: feet meters 4,907,230.987 Y- Coordinate or Northing: feet meters Base Elevation of Stack: 1,667 509.32 feet meters Stack Height: 20.12 66 feet meters Exit Stack Diameter 4.0 feet 1.22 meters **Exit Stack Temperature** 325 degrees Fahrenheit Exit Stack Velocity and/or Flow Rate: Velocity: feet per second meters per second and/or Flow Rate: 44,500 actual cubic feet per minute actual cubic meters per second



Air Quality Permit Application Form Paint Booth Coating Line

This form is to be submitted, if necessary, along with the Title V (Part 70) Operating Permit or Minor Operating Permit. (please complete shaded areas)

1. Facility identifica	tion (i.e., Paint	Booth #1, Unit	#1, etc):	M1 C	oating Line			
2. Manufacturer:	3M Custom			ı	Manufacture d	date:	1975	
3. Model number:	Custom							
4. Date Paint Booth	Coating Line m	anufactured:	1975					
5. Date Paint Booth	Coating Line in	stalled:	1975					
6. Describe items to	be coated:		Paper	and no	n-woven we	bs		
7. Check the approp	oriate box(es) for	the method of	spraying:	N/A				
Air Ato	mization		Airless El	ectrosta	atic			
Disc			Airless					
Air-Ato	omized		Powdered	[
Other ()	please describe)	\rightarrow						
8. Amount of over s	pray (percent)	N/A						
9. Number of Hours	per day paint b	ooth Coating I	ine is oper	ated:	Based on d	leman	d; capabl	e of
10. Number of days	per year paint b	ooth Coating 1	Line is ope	rated:	operating 2	24 hrs/	day, 365 d	days/yr
11. Is recycling or d	istillation used t	o recycle spen	t cleaning	solvent	?	Yes	; x	No
12. If recycled, nan	ne of business th	at recycles spe	nt cleaning	g solver	nt and amount	t recyc	led?	•
			N/A					
13. Has a stack test	been conducted	(check approp	riate box)?		X	Yes	3	No
If a stack test has been conducted, please attach a copy of the most recent stack test report to this application. If the Department already has a copy of the most recent stack test, please specify the date of most recent stack test.								
Date of most recent	stack test:	ctober 25-26,	2005					
Control Equipment: If applicable, types of air pollution control equipment (Examples: baghouse, cyclone, wet scrubber, electrostatic precipitator, thermal oxidizer, miscellaneous control device, etc.).								
Unit #4f – Regenerative Thermal Oxidizer (RTO)								

Please complete the appropriate air quality permit application form for each type of control equipment that controls air emissions from this operation.

Enclose a copy of the material safety data sheet (MSDS) for each of the following products used at your business (please indicate on the MSDS if the product is a primer, base coat, etc.):

3M Brookings uses a wide variety of coating solutions. VOC potential to emit calculations are based on maximum physical operating parameters of the coater. HAP speciation is based on 2014-2015 material usage data.



Note: Each MSDS must contain at least the following information for the department to complete its review of your application:



Weight per gallon of product



List of ingredients



Weight percent of each ingredient

How much of each type of paint, primer, thinner and solvent was used in the past 12 months at this paint booth Coating Line? **N/A**

Prin	ner						
	Description	Amount					
1.			gallons				
Base	Base Coat						
	Description	Amount					
1.			gallons				
Pain	Paint						
	Description	Amount					
1.			gallons				

Topcoat						
	Description	Amount				
1.		gallons				
Thin	ner					
	Description	Amount				
1.		gallons				
Solve	ent					
	Description	Amount				
1.		gallons				

Stack Information: Please note, emissions from the coaters are routed through the RTO; stack data below represents bypass stacks for the coater. Dampers are closed on the bypass stacks at all times during coating operation, except in the event of a startup, shutdown, or malfunction. STACK M1-1 X- Coordinate or Easting: feet 678,292.855 meters Y- Coordinate or Northing: feet 4,907,173.106 meters Base Elevation of Stack: 1,667 feet meters Stack Height: 72 feet meters 5.3 x 3.8 Exit Stack Diameter feet meters Exit Stack Temperature 230 degrees Fahrenheit Exit Stack Velocity and/or Flow Rate: Velocity: feet per second meters per second and/or 3,000 Flow Rate: actual cubic feet per minute actual cubic meters per second STACK M1-2 X- Coordinate or Easting: feet 678,268.419 meters 4,907,169.150 Y- Coordinate or Northing: feet meters Base Elevation of Stack: 1,667 feet meters 72 Stack Height: feet meters 3.5 x 4.0 Exit Stack Diameter feet meters Exit Stack Temperature 230 degrees Fahrenheit Exit Stack Velocity and/or Flow Rate: Velocity: feet per second meters per second 3,000 actual cubic feet per minute Flow Rate: actual cubic meters per second STACK M1-3 678,272.065 X- Coordinate or Easting: feet meters 4,907,168.189 Y- Coordinate or Northing: feet meters Base Elevation of Stack: 1,667 feet meters 72 Stack Height: feet meters 3.6 x 2.7 **Exit Stack Diameter** feet meters 284 Exit Stack Temperature degrees Fahrenheit Exit Stack Velocity and/or Flow Rate: Velocity: feet per second meters per second and/or Flow Rate: 3,200 actual cubic feet per minute actual cubic meters per second

STACK M1-4							
X- Coordinate or Easting:		feet	678,290.937	meters			
Y- Coordinate or Northing:		feet	4,907,166.120	meters			
Base Elevation of Stack:	1,667	feet		meters			
Stack Height:	72	feet		meters			
Exit Stack Diameter	3.5 x 4.8	feet		meters			
Exit Stack Temperature	320	degrees Fahre	nheit	•			
Exit Stack Velocity and/or Flo	ow Rate:	•					
Velocity:	feet per	second		meters per second			
<u> </u>		and/or		•			
Flow Rate: 4,800	actual cubic feet per	minute	actual cubi	c meters per second			
STACK M1-5		1	<u></u>	•			
X- Coordinate or Easting:		feet	678,270.487	meters			
Y- Coordinate or Northing:		feet	4,907,163.941	meters			
Base Elevation of Stack:	1,667	feet		meters			
Stack Height:	71	feet		meters			
Exit Stack Diameter	1.2 x 1.0	feet		meters			
Exit Stack Temperature	221	degrees Fahre	nheit				
Exit Stack Velocity and/or Flo	ow Rate:						
Velocity:	feet per	second		meters per second			
	:	and/or					
Flow Rate: 4,700	actual cubic feet per	minute	actual cubi	c meters per second			
STACK M1-6		1 .		1			
X- Coordinate or Easting:		feet	678,304.448	meters			
Y- Coordinate or Northing:		feet	4,907,173.873	meters			
Base Elevation of Stack:	1,667	feet		meters			
Stack Height:	67.5	feet		meters			
Exit Stack Diameter	1.8 x 2.4	feet		meters			
Exit Stack Temperature Ambient degrees Fahrenheit							
Exit Stack Velocity and/or Flow Rate:							
Velocity:	feet per			meters per second			
and/or Flow Rate: 7,500 actual cubic feet per minute actual cubic meters per second							

CTACK MA	,						
X- Coordinate			feet	6	78,265.977	meters	
Y- Coordinate	or Northing:		feet	4,9	07,168.876	meters	
Base Elevation	n of Stack:	1,667	feet			meters	
Stack Height:		67	feet			meters	
Exit Stack Dia	meter	4.2 x 3.2	feet			meters	
Exit Stack Ter	nperature	Ambient	degrees	Fahrenheit			
Exit Stack Velocity and/or Flow Rate:							
Velocity:	-	feet per	second			meters per second	
			and/or				
Flow Rate:	7,600	actual cubic feet per	minute		actual cubi	c meters per second	
					1		
STACK M1-8	3						
X- Coordinate	or Easting:		feet	6	78,276.887	meters	
Y- Coordinate	or Northing:		feet	4,9	07,163.860	meters	
Base Elevation	n of Stack:	1,667	feet			meters	
Stack Height:		73	feet			meters	
Exit Stack Dia	meter	1.8 x 2.5	feet			meters	
Exit Stack Ter	nperature	248	degrees	Fahrenheit			
Exit Stack Velocity and/or Flow Rate:							
Velocity:		feet per second			meters per second		
	and/or						
Flow Rate:	4,700	actual cubic feet per	minute		actual cubi	c meters per second	



Air Quality Permit Application Form Paint Booth Coating Line

This form is to be submitted, if necessary, along with the Title V (Part 70) Operating Permit or Minor Operating Permit. (please complete shaded areas)

1. Facility identification (i.e., Paint Booth #1, Unit #1, etc): M2 Coating Line								
2. Manufacturer:	3M Custom			Manufacture of	date:	1975		
3. Model number:	Custom							
4. Date Paint Booth	Coating Line ma	nufactured:	1975					
5. Date Paint Booth	Coating Line ins	talled:	1975					
6. Describe items to	be coated:		Paper	and no	n-woven we	bs		
7. Check the approp	riate box(es) for	the method of	spraying:	N/A				
Air Ato	mization		Airless El	lectrosta	atic			
Disc			Airless					
Air-Ato	omized		Powdered	l				
Other (1	please describe) -	→						
8. Amount of over s	pray (percent)	N/A						
9. Number of Hours	per day paint bo	oth Coating L	ine is oper	rated:	Based on d	leman	d; capabl	e of
10. Number of days	per year paint bo	oth Coating I	ine is ope	rated:	operating 2	24 hrs/	day, 365 d	days/yr
11. Is recycling or d	istillation used to	recycle spen	t cleaning	solvent	?	Yes	, x	No
12. If recycled, nam	ne of business tha	t recycles spe	nt cleaning	g solver	nt and amount	t recyc	led?	•
			N/A					
13. Has a stack test	been conducted (check approp	riate box)?	•	x	Yes	5	No
If a stack test has been conducted, please attach a copy of the most recent stack test report to this application. If the Department already has a copy of the most recent stack test, please specify the date of most recent stack test.								
Date of most recent stack test: October 25-26, 2005								
Control Equipment: If applicable, types of air pollution control equipment (Examples: baghouse, cyclone, wet scrubber, electrostatic precipitator, thermal oxidizer, miscellaneous control device, etc.).								
Unit #4f – Regenerative Thermal Oxidizer (RTO)								

Please complete the appropriate air quality permit application form for each type of control equipment that controls air emissions from this operation.

Enclose a copy of the material safety data sheet (MSDS) for each of the following products used at your business (please indicate on the MSDS if the product is a primer, base coat, etc.):

3M Brookings uses a wide variety of coating solutions. VOC potential to emit calculations are based on maximum physical operating parameters of the coater. HAP speciation is based on 2014-2015 material usage data.



Note: Each MSDS must contain at least the following information for the department to complete its review of your application:



Weight per gallon of product



List of ingredients



Weight percent of each ingredient

How much of each type of paint, primer, thinner and solvent was used in the past 12 months at this paint booth Coating Line? **N/A**

Prin	ner						
	Description	Amount					
1.			gallons				
Base	Base Coat						
	Description	Amount					
1.			gallons				
Pain	Paint						
	Description	Amount					
1.			gallons				

Topcoat							
	Description	Amount					
1.		gallons					
Thin	Thinner						
	Description	Amount					
1.		gallons					
Solv	Solvent						
	Description	Amount					
1.		gallons					

Stack Information: Please note, emissions from the coaters are routed through the RTO; stack data below represents bypass stacks for the coater. Dampers are closed on the bypass stacks at all times during coating operation, except in the event of a startup, shutdown, or malfunction. STACK M2-1 X- Coordinate or Easting: feet 678,284.776 meters 4,907,161.016 Y- Coordinate or Northing: feet meters Base Elevation of Stack: 1,667 feet meters Stack Height: 72 feet meters 5.3 x 3.8 Exit Stack Diameter feet meters Exit Stack Temperature 230 degrees Fahrenheit Exit Stack Velocity and/or Flow Rate: Velocity: feet per second meters per second and/or 2,300 Flow Rate: actual cubic feet per minute actual cubic meters per second STACK M2-2 X- Coordinate or Easting: feet 678,272.597 meters Y- Coordinate or Northing: feet 4,907,162.086 meters Base Elevation of Stack: 1,667 feet meters 73 Stack Height: feet meters 3.5 x 4.0 Exit Stack Diameter feet meters Exit Stack Temperature 230 degrees Fahrenheit Exit Stack Velocity and/or Flow Rate: Velocity: feet per second meters per second 2,400 actual cubic feet per minute Flow Rate: actual cubic meters per second STACK M2-3 678,268.573 X- Coordinate or Easting: feet meters Y- Coordinate or Northing: feet 4,907,157.260 meters Base Elevation of Stack: 1,667 feet meters 72 Stack Height: feet meters 3.6 x 2.7 **Exit Stack Diameter** feet meters 284 Exit Stack Temperature degrees Fahrenheit Exit Stack Velocity and/or Flow Rate: Velocity: feet per second meters per second and/or Flow Rate: 2,700 actual cubic feet per minute actual cubic meters per second

STACK M2-4							
X- Coordinate or Easting:		feet	678,296.905	meters			
Y- Coordinate or Northing:		feet	4,907,155.985	meters			
Base Elevation of Stack:	1,667	feet		meters			
Stack Height:	72	feet		meters			
Exit Stack Diameter	3.5 x 4.8	feet		meters			
Exit Stack Temperature	320	degrees Fahre	nheit				
Exit Stack Velocity and/or Flo	ow Rate:	•					
Velocity:	feet per	second		meters per second			
		and/or					
Flow Rate: 3,000	actual cubic feet per	minute	actual cubi	e meters per second			
STACK M2-5		ı					
X- Coordinate or Easting:		feet	678,293.892	meters			
Y- Coordinate or Northing:		feet	4,907,158.767	meters			
Base Elevation of Stack:	1,667	feet		meters			
Stack Height:	71	feet		meters			
Exit Stack Diameter	1.0 x 1.2	feet		meters			
Exit Stack Temperature	185	degrees Fahre	nheit				
Exit Stack Velocity and/or Flo	ow Rate:						
Velocity:	feet per	second		meters per second			
	:	and/or					
Flow Rate: 2,100	actual cubic feet per	minute	actual cubi	c meters per second			
STACK M2-6		l .					
X- Coordinate or Easting:		feet	678,304.046	meters			
Y- Coordinate or Northing:		feet	4,907,166.258	meters			
Base Elevation of Stack:	1,667	feet		meters			
Stack Height:	67.5	feet		meters			
Exit Stack Diameter	1.8 x 2.5	feet		meters			
Exit Stack Temperature Ambient degrees Fahrenheit							
Exit Stack Velocity and/or Flow Rate:							
Velocity:	feet per			meters per second			
and/or Flow Rate: 6,600 actual cubic feet per minute actual cubic meters per second							
	r						



Air Quality Permit Application Form Paint Booth Coating Line

This form is to be submitted, if necessary, along with the Title V (Part 70) Operating Permit or Minor Operating Permit. (please complete shaded areas)

1. Facility identification (i.e., Paint Booth #1, Unit #1, etc): M3 Coating Line							
2. Manufacturer:	3M Custom			Manuf	acture date:	1975	
3. Model number:	Custom						
4. Date Paint Booth	Coating Line manuf	actured:	1975				
5. Date Paint Booth	Coating Line install	ed:	1975				
6. Describe items to	be coated:		Paper and	non-wo	ven webs		
7. Check the approp	riate box(es) for the	method of	spraying: N/A	ı			
Air Ato	mization		Airless Electro	static			
Disc			Airless				
Air-Ato	omized		Powdered				
Other (p	please describe) →						
8. Amount of over s	pray (percent)	N/A					
9. Number of Hours	per day paint booth	Coating Li	ne is operated	Base	ed on deman	d; capable	of
10. Number of days	per year paint booth	Coating L	ine is operated	: oper	rating 24 hrs	/day, 365 d	ays/yr
11. Is recycling or d	istillation used to rec	cycle spent	cleaning solve	ent?	Ye	s X	No
12. If recycled, nam	ne of business that re	cycles sper	nt cleaning sol	vent and	amount recyc	eled?	
			N/A				
13. Has a stack test	been conducted (che	ck appropr	iate box)?		x Ye	s	No
If a stack test has been conducted, please attach a copy of the most recent stack test report to this application. If the Department already has a copy of the most recent stack test, please specify the date of most recent stack test.							
Date of most recent	stack test: Octob	er 25-26, 2	005				
Control Equipment: If applicable, types of air pollution control equipment (Examples: baghouse, cyclone, wet scrubber, electrostatic precipitator, thermal oxidizer, miscellaneous control device, etc.). Unit #4f – Regenerative Thermal Oxidizer (RTO)							

Please complete the appropriate air quality permit application form for each type of control equipment that controls air emissions from this operation.

Enclose a copy of the material safety data sheet (MSDS) for each of the following products used at your business (please indicate on the MSDS if the product is a primer, base coat, etc.):

3M Brookings uses a wide variety of coating solutions. VOC potential to emit calculations are based on maximum physical operating parameters of the coater. HAP speciation is based on 2014-2015 material usage data.



Note: Each MSDS must contain at least the following information for the department to complete its review of your application:



Weight per gallon of product



List of ingredients



Weight percent of each ingredient

How much of each type of paint, primer, thinner and solvent was used in the past 12 months at this paint booth Coating Line? **N/A**

Prin	ner						
	Description	Amount					
1.			gallons				
Base	Base Coat						
	Description	Amount					
1.			gallons				
Pain	Paint						
	Description	Amount					
1.			gallons				

Topcoat							
	Description	Amount					
1.		gallons					
Thin	Thinner						
	Description	Amount					
1.		gallons					
Solve	Solvent						
	Description	Amount					
1.		gallons					

Please note, emissions from the coaters are routed through the RTO; stack data below represents bypass stacks for the coater. Dampers are closed on the bypass stacks at all times during coating operation, except in the event of a startup, shutdown, or malfunction. STACK M3-1 678,262.185 X- Coordinate or Easting: feet meters Y- Coordinate or Northing: 4,907,158.255 feet meters Base Elevation of Stack: 1,667 feet meters Stack Height: 67 feet meters Exit Stack Diameter 1.8 x 2.5 feet meters Ambient Exit Stack Temperature degrees Fahrenheit Exit Stack Velocity and/or Flow Rate: feet per second Velocity: meters per second and/or Flow Rate: 4,200 actual cubic feet per minute actual cubic meters per second STACK M3-2 678,304.551 X- Coordinate or Easting: feet meters 4,907,158.022 Y- Coordinate or Northing: feet meters Base Elevation of Stack: 1,667 feet meters Stack Height: 67.5 feet meters **Exit Stack Diameter** 1.8 x 2.5 feet meters Exit Stack Temperature Ambient degrees Fahrenheit Exit Stack Velocity and/or Flow Rate: Velocity: feet per second meters per second and/or Flow Rate: 4,100 actual cubic feet per minute actual cubic meters per second

Stack Information: If this application is a renewal, contact the air program. We may have this

information.



Air Quality Permit Application Form Paint Booth Coating Line

This form is to be submitted, if necessary, along with the Title V (Part 70) Operating Permit or Minor Operating Permit. (please complete shaded areas)

1. Facility identification (i.e., Paint Booth #1, Unit #1, etc): M4 Coating Line and Drum Enclosure					rum Enclosure	
2. Manufacturer:	3M Custom			1	Manufacture date:	1994
3. Model number:	Custom					
4. Date Paint Booth	Coating Line manuf	actured:	1975			
5. Date Paint Booth	Coating Line install	ed:	1975			
6. Describe items to	be coated:		Paper a	nd no	n-woven webs	
7. Check the approp	riate box(es) for the	method of	spraying: I	N/A		
Air Ato	mization		Airless Ele	ctrosta	atic	
Disc			Airless			
Air-Ato	omized		Powdered			
Other (p	please describe) →					
8. Amount of over s	pray (percent)	N/A				
9. Number of Hours	per day paint booth	Coating Li	ne is opera	ted:	Based on demar	nd; capable of
10. Number of days	per year paint booth	Coating L	ine is opera	ted:	operating 24 hrs	/day, 365 days/yr
11. Is recycling or d	istillation used to rec	cycle spent	cleaning so	lvent	? Ye	s x No
12. If recycled, nam	ne of business that re	cycles sper	nt cleaning	solver	nt and amount recyc	cled?
			N/A			
13. Has a stack test	been conducted (che	ck appropr	iate box)?		x Ye	s No
If a stack test has be application. If the E most recent stack test	Department already h					
Date of most recent	stack test: Octob	er 25-26, 2	2005 <i>(PTE</i> (Certifi	cation)	
Control Equipment: If applicable, types of air pollution control equipment (Examples: baghouse, cyclone, wet scrubber, electrostatic precipitator, thermal oxidizer, miscellaneous control device, etc.). Unit #4f – Regenerative Thermal Oxidizer (RTO)						

Please complete the appropriate air quality permit application form for each type of control equipment that controls air emissions from this operation.

Enclose a copy of the material safety data sheet (MSDS) for each of the following products used at your business (please indicate on the MSDS if the product is a primer, base coat, etc.):

3M Brookings uses a wide variety of coating solutions. VOC potential to emit calculations are based on maximum physical operating parameters of the coater. HAP speciation is based on 2014-2015 material usage data.



Note: Each MSDS must contain at least the following information for the department to complete its review of your application:



Weight per gallon of product



List of ingredients



Weight percent of each ingredient

How much of each type of paint, primer, thinner and solvent was used in the past 12 months at this paint booth Coating Line? **N/A**

Prin	ner						
	Description	Amount					
1.			gallons				
Base	Base Coat						
	Description	Amount					
1.			gallons				
Pain	Paint						
	Description	Amount					
1.			gallons				

Topcoat							
	Description	Amount					
1.		gallons					
Thir	Thinner						
	Description	Amount					
1.		gallons					
Solv	Solvent						
	Description	Amount					
1.		gallons					

Please note, emissions from the coaters are routed through the RTO; stack data below represents bypass stacks for the coater. Dampers are closed on the bypass stacks at all times during coating operation, except in the event of a startup, shutdown, or malfunction.

STACK M4-	1							
X- Coordinate or Easting:			feet	678,285.840	meters			
Y- Coordinate or Northing:			feet	4,907,148.810	meters			
Base Elevation of Stack:		1,667	feet		meters			
Stack Height:		67	feet		meters			
Exit Stack Dia	ameter	0.7	feet		meters			
Exit Stack Ter	mperature	73 degree		hrenheit	•			
Exit Stack Velocity and/or Flow Rate:								
Velocity:		feet per	second		meters per second			
			and/or		•			
Flow Rate:	225	actual cubic feet per	minute	actual cubi	c meters per second			
				<u>.</u>				
STACK M4-	2	<u> </u>	1		1			
X- Coordinate	e or Easting:		feet	678,296.808	meters			
Y- Coordinate	e or Northing:		feet	4,907,148.366	meters			
Base Elevation	n of Stack:	1,667	feet		meters			
Stack Height:		73	feet		meters			
Exit Stack Dia	ameter	0.8	feet		meters			
Exit Stack Temperature		73	degrees Fa	hrenheit	•			
Exit Stack Ve	locity and/or F	low Rate:	<u>-</u>					
Velocity:		feet per	second		meters per second			
			and/or		'			
Flow Rate:	4,900	actual cubic feet per	minute	actual cubi	c meters per second			
STACK M4-	3		1		1			
X- Coordinate	e or Easting:		feet	678,291.318	meters			
Y- Coordinate	e or Northing:		feet	4,907,148.131	meters			
Base Elevatio	n of Stack:	1,667	feet		meters			
Stack Height:		71	feet		meters			
Exit Stack Diameter		2.0	feet		meters			
Exit Stack Temperature		73	degrees Fahrenheit					
Exit Stack Ve	locity and/or F	low Rate:	-					
Velocity:		feet per	second		meters per second			
			and/or		•			
Flow Rate:	700	actual cubic feet per	minute	actual cubi	c meters per second			
Paint Booth Co	ating Line Form							

STACK M4-4 678,298.633 X- Coordinate or Easting: feet meters 4,907,148.038 Y- Coordinate or Northing: feet meters Base Elevation of Stack: 1,667 feet meters Stack Height: 71 feet meters 2.0 Exit Stack Diameter feet meters Exit Stack Temperature **115** degrees Fahrenheit Exit Stack Velocity and/or Flow Rate: Velocity: feet per second meters per second and/or Flow Rate: **3,400** actual cubic feet per minute actual cubic meters per second



Air Quality Permit Application Form Paint Booth Coating Line

This form is to be submitted, if necessary, along with the Title V (Part 70) Operating Permit or Minor Operating Permit. (please complete shaded areas)

1. Facility identification (i.e., Paint Booth #1, Unit #1, etc): M6 Coating Line						
2. Manufacturer: 3M Custom				Manufacture date:		
3. Model number: Custom						
4. Date Paint Booth	Coating Line manuf	actured:	2006			
5. Date Paint Booth	Coating Line install	ed:	2006			
6. Describe items to	be coated:		Paper and non-woven webs			
7. Check the approp	riate box(es) for the	method of	spraying: N/A			
Air Ato	mization		Airless Electrostatic			
Disc			Airless			
Air-Ato	omized]	Powdered			
Other (p	olease describe) →					
8. Amount of over s	pray (percent)	N/A				
9. Number of Hours	per day paint booth	Coating Li	ne is operated:	Based on demand; capable of		
10. Number of days	10. Number of days per year paint booth Coating Line is operated: operating 24 hrs/day, 365 days/yr					
11. Is recycling or distillation used to recycle spent cleaning solvent? Yes X No					o	
12. If recycled, nam	ne of business that re	cycles spen	t cleaning solve	ent and amount recycled?		
N/A						
13. Has a stack test been conducted (check appropriate box)? Yes X No						
If a stack test has been conducted, please attach a copy of the most recent stack test report to this application. If the Department already has a copy of the most recent stack test, please specify the date of most recent stack test.						
Date of most recent stack test: August 28, 2008						
Control Equipment: If applicable, types of air pollution control equipment (Examples: baghouse, cyclone, wet scrubber, electrostatic precipitator, thermal oxidizer, miscellaneous control device, etc.). Unit #4f – Regenerative Thermal Oxidizer (RTO)						

Please complete the appropriate air quality permit application form for each type of control equipment that controls air emissions from this operation.

Enclose a copy of the material safety data sheet (MSDS) for each of the following products used at your business (please indicate on the MSDS if the product is a primer, base coat, etc.):

Primer Base coat
Paint Topcoat
Thinner Cleaning Solvent

Note: Each MSDS must contain at least the following information for the department to complete its review of your application:



Weight per gallon of product



List of ingredients



Weight percent of each ingredient

How much of each type of paint, primer, thinner and solvent was used in the past 12 months at this paint booth Coating Line? **N/A**

Prin	ner		
	Description	Amount	
1.			gallons
Base	Coat		
	Description	Amount	
1.			gallons
Pain	t		
	Description	Amount	
1.			gallons

Topcoat				
	Description	Amount		
1.		gallons		
Thin	ner			
	Description	Amount		
1.		gallons		
Solve	ent			
	Description	Amount		
1.		gallons		

Please note, emissions from the coaters are routed through the RTO; stack data below represents bypass stacks for the coater. Dampers are closed on the bypass stacks at all times during coating operation, except in the event of a startup, shutdown, or malfunction.

STACK M6-ZONE1						
X- Coordinate or Easting:		feet	678,295.158	meters		
Y- Coordinate or Northing:		feet	4,907,193.968	meters		
Base Elevation of Stack:	1,667	feet		meters		
Stack Height:	72	feet		meters		
Exit Stack Diameter:	1.50	feet		meters		
Exit Stack Temperature:*	77	degrees Fa	hrenheit	•		
Exit Stack Velocity and/or Flo	w Rate:					
Velocity:	feet per	second		meters per second		
		and/or				
Flow Rate:* 5,000	– 25,000 acfm		actual cubi	c meters per second		
STACK M6-ZONE2						
X- Coordinate or Easting:		feet	678,284.527	meters		
Y- Coordinate or Northing:		feet	4,907,193.809	meters		
Base Elevation of Stack:	1,667	feet		meters		
Stack Height:	72	feet		meters		
Exit Stack Diameter:	1.67	feet		meters		
Exit Stack Temperature:*	86	degrees Fa	hrenheit			
Exit Stack Velocity and/or Flo	ow Rate:	1				
Velocity: *	feet per	second		meters per second		
		and/or		•		
Flow Rate:* 5,000	– 25,000 acfm		actual cubi	c meters per second		
STACK M6-ZONE3						
X- Coordinate or Easting:		feet	678,272.631	meters		
Y- Coordinate or Northing:		feet	4,907,193.455	meters		
Base Elevation of Stack:	1,667	feet		meters		
Stack Height:	72	feet		meters		
Exit Stack Diameter	1.83	feet		meters		
Exit Stack Temperature*	113	degrees Fa	hrenheit	•		
Exit Stack Velocity and/or Flo	w Rate:	1				
Velocity:	feet per	second		meters per second		
and/or						
Flow Rate:* 5,000	- 25,000 acfm		actual cubi	c meters per second		

STACK M6-ZONE4						
X- Coordinate or Easting:		feet	678,260.882	meters		
		feet	4,907,193.141	meters		
Base Elevation of Stack:	1,667	feet		meters		
Stack Height:	72	feet		meters		
Exit Stack Diameter:	1.83	feet		meters		
Exit Stack Temperature:*	140	degrees Fahrenheit				
Exit Stack Velocity and/or Flo	w Rate:					
Velocity:	feet per	second		meters per second		
		and/or				
Flow Rate:* 5,000	– 25,000 acfm		actual cubi	c meters per second		
STACK M6-ZONE5		l	678,249.262	l .		
X- Coordinate or Easting:		feet	4,907,192.952	meters		
Y- Coordinate or Northing:	4.007	feet	4,907,192.932	meters		
Base Elevation of Stack:	1,667	feet		meters		
Stack Height:	72	feet		meters		
Exit Stack Diameter:	1.17	feet	1	meters		
Exit Stack Temperature:* 167 degrees Fahrenheit						
Exit Stack Velocity and/or Flo		1		l		
Velocity:	feet per			meters per second		
Flow Rate:* 5,000	– 25,000 acfm	and/or	a atual auki	a mastana man sa sand		
7,000 Tiow Rate.	– 23,000 acilii		actual cubi	c meters per second		
STACK M6-ZONE6						
X- Coordinate or Easting:		feet	678,255.830	meters		
Y- Coordinate or Northing:		feet	4,907,193.079	meters		
Base Elevation of Stack: 1,667		feet		meters		
Stack Height: 72		feet		meters		
Exit Stack Diameter:	1.17	feet		meters		
Exit Stack Temperature:*	176	degrees Fahre	nheit			
Exit Stack Velocity and/or Flow Rate:						
Velocity: feet per second meters per second						
and/or						
Flow Rate:* 5,000	– 25,000 acfm		actual cubi	c meters per second		

STACK M6-ZONE7						
X- Coordinate or Easting:		feet	678,267.621	meters		
Y- Coordinate or Northing:		feet	4,907,193.434	meters		
Base Elevation of Stack:	1,667	feet		meters		
Stack Height:	72	feet		meters		
Exit Stack Diameter:	1.00	feet		meters		
Exit Stack Temperature:*	194	degrees Fahre	nheit			
Exit Stack Velocity and/or Flo	w Rate:	!				
Velocity:	feet per second			meters per second		
		and/or				
Flow Rate:* 5,000	– 25,000 acfm		actual cubi	c meters per second		
STACK M6-ZONE8		l	678,279.221			
X- Coordinate or Easting:		feet	4,907,193.623	meters		
Y- Coordinate or Northing:	4.007	feet	4,907,193.023	meters		
Base Elevation of Stack:	1,667	feet		meters		
Stack Height:	72	feet		meters		
Exit Stack Diameter:	1.00	feet	1	meters		
Exit Stack Temperature:*	212	degrees Fahre	nneit			
Exit Stack Velocity and/or Flo						
Velocity:	feet per	and/or		meters per second		
Flow Rate: 5,000	– 25,000 acfm	and/or	actual aubi	c meters per second		
110w Rate. 3,000	– 23,000 acmi		actual cubi	c meters per second		
STACK M6-ZONE9						
X- Coordinate or Easting:		feet	678,290.800	meters		
Y- Coordinate or Northing:		feet	4,907,193.897	meters		
Base Elevation of Stack: 1,667		feet		meters		
Stack Height: 72		feet		meters		
Exit Stack Diameter: 1.00		feet		meters		
Exit Stack Temperature:*	degrees Fahre	nheit				
Exit Stack Velocity and/or Flow Rate:						
Velocity:	feet per	second		meters per second		
and/or						
Flow Rate:* 5,000	– 25,000 acfm		actual cubi	c meters per second		

STACK M6-MACHINE 678,301.710 X- Coordinate or Easting: feet meters 4,907,192.790 Y- Coordinate or Northing: feet meters Base Elevation of Stack: 1,667 feet meters Stack Height: **72** feet meters 2.00 Exit Stack Diameter: feet meters Ambient Exit Stack Temperature:* degrees Fahrenheit Exit Stack Velocity and/or Flow Rate: Velocity: feet per second meters per second and/or 5,000 - 25,000 Flow Rate:* acfm actual cubic meters per second



Air Quality Permit Application Form

Regenerative Thermal Oxidizer

This form is to be submitted, if necessary, along with the Title V (Part 70) Operating Permit, Minor Operating Permit, or the General Permits. (please complete shaded areas)

Equipment and processes served by this regenerative thermal oxidizer (please list all equipment and processes):

Equipment	and I	Processes
-----------	-------	-----------

1.	M1 Coating Line
2.	M2 Coating Line
3.	M3 Coating Line
4.	M4 Coating Line, M4 Drum Enclosure
5.	M6 Coating Line

Manufacturer Information:

Manufacturer?	Durr Systems					
Manufacturer date?	2004	2004			ation date?	2004
Manufacturer's designed control efficiency?			93.1 %		%	
Maximum heat input	?			32	million Btus	s per hour
Lowest operating tem	operating temperature?			1,400	Degrees Fal	nrenheit
Residence time?		0.8	(mini	mum)	Seconds	
Type of fuel?		Natura		al gas	Primary	
				N/A	Secondary	

Stack Information: If this application is a renewal, contact the air program. We may have this information.

STACK RTO-1

X- Coordinate or Easting:		feet	or	678,240.07	meters
Y- Coordinate or Northing:		feet	or	4,907,284.92	meters
Base Elevation of Stack:	1,677	feet	or	509.32	meters
Stack Height:	73.0	feet	or	22.25	meters
Exit Stack Diameter	8.5	feet	or	2.59	meters
Exit Stack Temperature	120	degree	es Fahre	nheit	

Exit Stack Velocity and/or Flow Rate:

Velocity:		16.07	feet per second	4.90	meters per second
			and/or		
Flow Rate:	54,700	actual cubi	c feet per minute	actual cubi	c meters per second

Regenerative Thermal Oxidizer Application Form



This form is to be submitted, if necessary, along with the Title V (Part 70) Operating Permit or Minor Operating Permit. (please complete shaded areas)

Facility identif	ication (i.e., E	Boiler #1, Unit #1, etc):	Mixin	g Roo	m		
2. Manufacturer:	Various	, , , , , , , , , , , , , , , , , , , ,		-	ufactur	e date:	1975 or later
3. Model number	Various						
4. Type (i.e., stea	m boiler, sim	ole cycle combustion tu	rbine, ge	nerato	r, etc.)		
	otes, and mi	xers used to mix or bl			-	esives b	efore being
5. Maximum desi	gned operatin	g rate (name plate):			_		
		N/A			millio	n Btus pe	er hour heat input
or	horsepower						
or	kilowatts						
6. Check the appr	opriate box(e	s) for primary and seco	ndary fu	els: N/	A		
Natural gas]	Propan	e		
Distillate o	il	Sulfur content			Weigh	t percent	
Residual oi	1	Sulfur content			Weigh	t percent	
Bituminous	s Coal	Subbituminou	s Coal			Lignite	e Coal
Coal sulfur co	ntent	Weight percen	nt Coal	ash co	ntent		Weight percent
Other (plea	se specify)	·					
7. Has a stack tes	t been conduc	ted (check appropriate	box)?	х	Υe	es	No
	e Department	cted, please attach a cop already has a copy of the	•				-
Date of most rece	nt stack test:	October 25-26, 2005	5				
		able, types of air pollutitatic precipitator, therm					
None							
Please compl	ete the appro	opriate air quality per	mit appl	lication	ı form t	for each	type of control

equipment that controls air emissions from this operation.

Stack Information: If this appinformation.	plication is a renewa	al, contact the a	air program. We may	have this
STACK MIX-1		_		
X- Coordinate or Easting:		feet	678,251.217	meters
Y- Coordinate or Northing:		feet	4,907,158.700	meters
Base Elevation of Stack:	1,677	feet		meters
Stack Height:	69	feet		meters
Exit Stack Diameter	1.7 x 2.0	feet		meters
Exit Stack Temperature	73	degrees Fahre	enheit	
Exit Stack Velocity and/or Flo	w Rate:			
Velocity:	feet per	second		meters per second
		and/or		
Flow Rate: 6,500 a	actual cubic feet per	minute	actual cubi	c meters per second



This form is to be submitted, if necessary, along with the Title V (Part 70) Operating Permit or Minor Operating Permit. $(please\ complete\ shaded\ areas)$

1. Facility identifica	tion (i.e., Bo	iler #1, Unit #1, etc):	Die Cl	eaning	g Room	1			
2. Manufacturer:	Various		Man	ufactur	e date:	197	5 or later		
3. Model number:	Various								
4. Type (i.e., steam)	boiler, simple	e cycle combustion tur	bine, gei	nerator	r, etc.)				
Solvents used in th	ne die cleani	ng room to clean par	ts.						
5. Maximum design	ed operating	rate (name plate):			-				
		N/A			millio	n Btus p	er hou	ır heat input	
or	horsepower								
or	kilowatts								
6. Check the approp	riate box(es)	for primary and secon	dary fue	ls: N/	A				
Natural gas			P	ropane	e				
Distillate oil		Sulfur content			Weigh	t percent			
Residual oil		Sulfur content			Weigh	percent			
Bituminous C	Coal	Subbituminous	Coal			Lignit	e Coa	1	
Coal sulfur conte	ent	Weight percent	Coal	ash co	ntent		We	ight percent	
Other (please	specify)								
7. Has a stack test be	een conducte	ed (check appropriate b	oox)?		Ye	es	X	No	
	Department al	ed, please attach a copy lready has a copy of th	•						
Date of most recent	stack test:	n/a							
		ole, types of air pollution tic precipitator, therma		-	•	-			
None									

Please complete the appropriate air quality permit application form for each type of control equipment that controls air emissions from this operation.

information.				
STACK DIE-1				
X- Coordinate or Easting:		feet	678,251.765	meters
Y- Coordinate or Northing:		feet	4,907,153.816	meters
Base Elevation of Stack:	1,667	feet		meters
Stack Height:	67	feet		meters
Exit Stack Diameter	1.7 x 2.1	feet		meters
Exit Stack Temperature	Ambient	degrees Fahre	nheit	
Exit Stack Velocity and/or Flo	ow Rate:			
Velocity:	feet per	second		meters per second
		and/or		
Flow Rate: 3,700	actual cubic feet per	minute	actual cubi	c meters per second
STACK DIE-2				
X- Coordinate or Easting:		feet	678,249.053	meters
Y- Coordinate or Northing:		feet	4,907,156.289	meters
Base Elevation of Stack:	1,667	feet		meters
Stack Height:	68	feet		meters
Exit Stack Diameter	1.1 x 1.3	feet		meters
Exit Stack Temperature	Ambient	degrees Fahre	nheit	
Exit Stack Velocity and/or Flo	ow Rate:			
Velocity:	feet per	second		meters per second
		and/or		
Flow Rate: 3,000	actual cubic feet per	minute	actual cubi	c meters per second

Stack Information: If this application is a renewal, contact the air program. We may have this



This form is to be submitted, if necessary, along with the Title V (Part 70) Operating Permit or Minor Operating Permit. (please complete shaded areas)

1. Facility identifica	tion (i.e., E	oiler#	1, Unit #1, etc):	Resin	Silos	(4)		
2. Manufacturer:	Una-Dyn				Man	ufacture	date:	1990
3. Model number:	N/A							
4. Type (i.e., steam	boiler, simp	ole cycl	e combustion tur	bine, gen	erato	; etc.)		
Storage silos for p	olyethylen	e and p	olypropylene re	sin pelle	ets.			
Loading capacity: Storage capacity:	2,800 lb/h 7,200 cub							
5. Maximum design	ed operatin	g rate (1	name plate):			_		
		l	N/A			millio	n Btus pe	er hour heat input
or						horsep	ower	
or					kilowa	itts		
6. Check the approp	riate box(e	s) for p	rimary and secon	dary fuel	ls: N/	A		
Natural gas				Pı	ropan	e		
Distillate oil			Sulfur content			Weight	percent	
Residual oil			Sulfur content			Weight	percent	
Bituminous C	Coal		Subbituminous	Coal			Lignite	e Coal
Coal sulfur conto	ent		Weight percent	Coal a	ash co	ntent		Weight percent
Other (please	specify)							
7. Has a stack test b	een conduc	ted (che	eck appropriate b	ox)?		Ye	S	x No
If a stack test has be application. If the I most recent stack te	Department	-						-
Date of most recent	stack test:							
Control Equipment cyclone, wet scrubb		• •			-	•	-	•
Dust Filters (each	silo is equi	pped w	rith a dust filter)					
Please complet	e the appro	priate	air quality pern	nit appli	cation	form f	or each	type of control

equipment that controls air emissions from this operation.

I					1
X- Coordinate or Easting:	fee				meters
Y- Coordinate or Northing:	fee				meters
Base Elevation of Stack:	fee				meters
Stack Height:	fee				meters
Exit Stack Diameter	fee				meters
Exit Stack Temperature		grees Fahre	nheit		
Exit Stack Velocity and/or Flo					1
Velocity:	feet per seco				meters per second
	and/				
Flow Rate:	ctual cubic feet per min	ute		actual cubi	c meters per second



Air Quality Permit Application Form Miscellaneous Control Device

This form is to be submitted, if necessary, along with the Title V (Part 70) Operating Permit, Minor Operating Permit, or the General Permits.

(please complete shaded areas)

Dust Filters (4) One dust filter per ι	ınit						
Equipment and pro	cesses served by	this ba	aghou	se (please list	t all eq	uipmen	t and processes):
		Eq	uipmo	ent and Proce	esses		
1. Unit #9a – Resi							
2. Unit #9b – Res							
3. Unit #9c – Resi							
4. Unit #9d – Res	in Silo						
5.							
Manufacturer Info	mation:						
Manufacturer?	Donaldson						
Manufacturer date?	1990			Installation d	late?	1990	
Manufacturer's desig	ned control effici	ency?	99.9)		%	
Miscellaneous Cont	rol Device Oper	ation a	nd M	aintenance:		•	
	_						1
Pressure drop across				s water (minin		N/A	inches water (maximum)
Inlet Temperature?	ambient			t (minimum)	amb		Fahrenheit (maximum)
Outlet Temperature?				t (minimum)	amb		Fahrenheit (maximum)
Describe maintenanc		-	visua	inspections, i	mainte	nance so	chedule, etc.):
Maintenance sched	uie for inspectio	n.					

Miscellaneous Control Device Application Form

information. **STACK SILO-1** X- Coordinate or Easting: feet 678,206.099 meters Y- Coordinate or Northing: feet 4,907,134.278 meters Base Elevation of Stack: 1,667 feet meters Stack Height: 70 feet meters 2.0 Exit Stack Diameter feet meters Exit Stack Temperature Ambient degrees Fahrenheit Exit Stack Velocity and/or Flow Rate: feet per second Velocity: meters per second and/or NA Flow Rate: actual cubic feet per minute actual cubic meters per second **STACK SILO-2** 678,206.138 feet X- Coordinate or Easting: meters Y- Coordinate or Northing: feet 4,907,137.326 meters Base Elevation of Stack: 1,667 feet meters Stack Height: 70 feet meters 2.0 Exit Stack Diameter feet meters **Ambient** degrees Fahrenheit Exit Stack Temperature Exit Stack Velocity and/or Flow Rate: Velocity: feet per second meters per second and/or Flow Rate: NA actual cubic feet per minute actual cubic meters per second **STACK SILO-3** X- Coordinate or Easting: feet 678,206.180 meters Y- Coordinate or Northing: feet 4,907,140.678 meters 1,667 Base Elevation of Stack: feet meters Stack Height: 70 feet meters **Exit Stack Diameter** 2.0 feet meters **Ambient** Exit Stack Temperature degrees Fahrenheit Exit Stack Velocity and/or Flow Rate: Velocity: feet per second meters per second and/or NA Flow Rate: actual cubic feet per minute actual cubic meters per second

Miscellaneous Control Device Application Form

Stack Information: If this application is a renewal, contact the air program. We may have this

STACK SILO-4 X- Coordinate or Easting: feet 678,206.219 meters Y- Coordinate or Northing: 4,907,143.726 feet meters Base Elevation of Stack: 1,667 feet meters Stack Height: 70 feet meters Exit Stack Diameter 2.0 feet meters Ambient Exit Stack Temperature degrees Fahrenheit Exit Stack Velocity and/or Flow Rate: Velocity: feet per second meters per second and/or Flow Rate: NA actual cubic feet per minute actual cubic meters per second



This form is to be submitted, if necessary, along with the Title V (Part 70) Operating Permit or Minor Operating Permit. $(please\ complete\ shaded\ areas)$

1. Facility identification (i.e., Boiler #1, Unit #1, etc): Resin Transfer												
2. Ma	anufacture	er:	N/A					Man	ufacture	date:	19	90
3. Mo	odel numb	er:	N/A									
4. Type (i.e., steam boiler, simple cycle combustion turbine, generator, etc.)												
Transfer of polyethylene and polypropylene resin pellets from the silos to the extruder area.												
5. Ma	axim <u>u</u> m d	lesigne	d ope	rating	g rate (name plate):			_			
									million	n Btus p	er ho	our heat input
	or 2,800 (each) Horsepower lbs/hr											
	or								kilowa	itts		
6. Ch	eck the a	ppropri	iate b	ox(es) for p	rimary and seco	ndary fue	els: N/	A			
	Natural											
	Distillat	e oil				Sulfur content		Weight	percen	t		
	Residual	l oil				Sulfur content			Weight	percen	t	
	Bitumin	ous Co	al			Subbituminous	s Coal			Ligni	te Co	al
C	oal sulfur	conter	nt			Weight percen	t Coal	ash co	ntent		W	eight percent
	Other (p	lease s	pecify	y)								
7. Ha	s a stack	test be	en coi	nduct	ed (ch	eck appropriate	box)?		Ye	s	х	No
appli		the De	epartn		-	ease attach a cop has a copy of the	•				-	
Date	of most re	ecent s	tack t	est:								
Control Equipment: If applicable, types of air pollution control equipment (Examples: baghouse, cyclone, wet scrubber, electrostatic precipitator, thermal oxidizer, miscellaneous control device, etc.).												
Bagh	ouses (2	2); a thi	ird ba	ghou	ıse is	on standby as	a backup).				
P	lease con	nplete	the a	ppro	priate	air quality per	mit appl	ication	ı form f	or each	type	e of control

equipment that controls air emissions from this operation.

Stack Information: If this application is a renewal, contact the air program. We may have this information. **STACK RESIN-1** 678,314.148 X- Coordinate or Easting: feet meters 4,907,145.707 Y- Coordinate or Northing: feet meters Base Elevation of Stack: 1,671 feet meters Stack Height: 43 feet meters 0.25 Exit Stack Diameter feet meters Exit Stack Temperature 125 degrees Fahrenheit Exit Stack Velocity and/or Flow Rate: 77 feet per second Velocity: meters per second and/or Flow Rate: actual cubic feet per minute actual cubic meters per second **STACK RESIN-2** 678,314.148 X- Coordinate or Easting: feet meters 4,907,145.707 Y- Coordinate or Northing: feet meters Base Elevation of Stack: 1,671 feet meters Stack Height: feet meters **Exit Stack Diameter** 0.25 feet meters 125 Exit Stack Temperature degrees Fahrenheit Exit Stack Velocity and/or Flow Rate: 70 feet per second Velocity: meters per second and/or Flow Rate: actual cubic feet per minute actual cubic meters per second **STACK RESIN-3** X- Coordinate or Easting: feet 678,314.148 meters 4,907,145.707 Y- Coordinate or Northing: feet meters 1,671 Base Elevation of Stack: feet meters Stack Height: 43 feet meters **Exit Stack Diameter** 0.25 feet meters 125 degrees Fahrenheit **Exit Stack Temperature** Exit Stack Velocity and/or Flow Rate: Velocity: feet per second meters per second and/or Flow Rate: actual cubic feet per minute actual cubic meters per second



Air Quality Permit Application Form Miscellaneous Control Device

This form is to be submitted, if necessary, along with the Title V (Part 70) Operating Permit, Minor Operating Permit, or the General Permits.

	Minor Operating Per	mit, or the General I	Permits.								
(please complete shaded areas)											
Describe the miscellaneous control device and how it works:											
Dust Filters (3)											
Equipment and processes served by this baghouse (please list all equipment and processes):											
	Equipn	nent and Processes									
	nsfer of resin pellets from										
	nsfer of resin pellets from										
	nsfer of resin pellets from	the silos to the extru	der area								
4.											
5.											
Manufacturer Infor	mation:										
Manufacturer?	Una-Dyn										
Manufacturer date?	1990	Installation date?	1990								
Manufacturer's design	ned control efficiency? 99	0.9	%								
Miscellaneous Conti	rol Device Operation and N	Maintenance:									
Wiscendificous Conti		viameenance.									
Pressure drop across	control unit? N/A Inch	nes water (minimum)	N/A inches water (maximum)								
Inlet Temperature?	ambient Fahrenho	eit (minimum) amb	Fahrenheit (maximum)								
Outlet Temperature?	ambient Fahrenhe	eit (minimum) amb	ient Fahrenheit (maximum)								
Describe maintenance of control unit (use of visual inspections, maintenance schedule, etc.):											
Remove and clean o	or replace filters quarterly.										

Miscellaneous Control Device Application Form

Stack Information: If this application is a renewal, contact the air program. We may have this information. **STACK RESIN-1** X- Coordinate or Easting: 1 feet 678,314.148 or meters Y- Coordinate or Northing: 1 4,907,145.707 feet meters or Base Elevation of Stack: 1 1,667 feet meters or Stack Height: 43 feet or meters Exit Stack Diameter 0.25 feet or meters 125 Exit Stack Temperature degrees Fahrenheit Exit Stack Velocity and/or Flow Rate: feet per second Velocity: meters per second and/or Flow Rate: actual cubic feet per minute actual cubic meters per second **STACK RESIN-2** X- Coordinate or Easting: ¹ feet 678,314.148 meters or Y- Coordinate or Northing: 1 4,907,145.707 feet or meters Base Elevation of Stack: 1 1,667 feet meters or Stack Height: 43 feet or meters Exit Stack Diameter 0.25 feet or meters Exit Stack Temperature 125 degrees Fahrenheit Exit Stack Velocity and/or Flow Rate: Velocity: 70 feet per second meters per second and/or Flow Rate: actual cubic feet per minute actual cubic meters per second **STACK RESIN-3** X- Coordinate or Easting: 1 feet or 678,314.148 meters Y- Coordinate or Northing: 1 4,907,145.707 feet meters or Base Elevation of Stack: 1 1,667 feet or meters Stack Height: 43 feet or meters 0.25 Exit Stack Diameter feet meters or degrees Fahrenheit 125 Exit Stack Temperature Exit Stack Velocity and/or Flow Rate: Velocity: 72 feet per second meters per second and/or Flow Rate: actual cubic feet per minute actual cubic meters per second Miscellaneous Control Device Application Form



Air Quality Permit Application Form Kiln or Dryer

This form is to be submitted, if necessary, along with the Title V (Part 70) Operating Permit or Minor Operating Permit. $(please\ complete\ shaded\ areas)$

1. Facility identifica	tion (i.e	e., Kiln	#1, Unit #1, etc):	4K O	vens (2)		
2. Manufacturer:	3M Cu	ustom				Manu	facture date:	1971
3. Model number:	Custo	om				•		
4. Process (i.e., dry	a produ	ct, prod	uce a product, etc.)					
Dry a product								
5. Maximum design	ed oper	ating ra	te of burner (name	plate):		_		
		ı	4.5 (each)			millio	n Btus per h	our heat input
6. Maximum design	ed oper	ating ra	te of process:			_		
			N/A			tons p	er hour	
7. Type of material	process	sed?						
Non-woven web								
8. Check the approp	riate bo	ox(es) fo	or primary and seco	ndary f	uels:			
x Natural gas					Propan	e		
Distillate oil			Sulfur content			Weight	percent	
Residual oil			Sulfur content			Weight	percent	
Bituminous C	oal _		Subbituminou	s Coal			Lignite Co	oal
Coal sulfur conte	ent		Weight percer	nt Co	al ash co	ontent	W	eight percent
Other (please	specify	') <u> </u>						
9. Has a stack test b	een con	ducted	(check appropriate	box)?	X	Ye	es	No
If a stack test has be application. If the I most recent stack te	Departm							
Date of most recent	stack te	est: A	pril 18, 2000					
Control Equipmen cyclone, wet scrubb								
None								
Please complete	e the ap	propri	ate air quality per	mit ap	plicatio	n form f	for each typ	e of control

equipment that controls air emissions from this operation.

Kiln or Dryer Application Form

information.				
STACK 4K-1				
X- Coordinate or Easting:		feet	678,332.923	meters
Y- Coordinate or Northing:		feet	4,907,255.811	meters
Base Elevation of Stack:	1,667	feet		meters
Stack Height:	49	feet		meters
Exit Stack Diameter	1.8 x 2.5	feet		meters
Exit Stack Temperature	390	degrees Fahre	nheit	
Exit Stack Velocity and/or Flo	w Rate:	•		
Velocity:	feet per	second		meters per second
		and/or		
Flow Rate: 3,000 a	actual cubic feet per	minute	actual cubi	c meters per second
STACK 4K-2				
X- Coordinate or Easting:		feet	678,340.584	meters
Y- Coordinate or Northing:		feet	4,907,259.067	meters
Base Elevation of Stack:	1,667	feet		meters
Stack Height:	49	feet		meters
Exit Stack Diameter	1.8 x 2.5	feet		meters
Exit Stack Temperature	390	degrees Fahre	nheit	•
Exit Stack Velocity and/or Flo	w Rate:	•		
Velocity:	feet per	second		meters per second
		and/or		
Flow Rate: 3,000 a	actual cubic feet per	minute	actual cubi	c meters per second
_ 				

Stack Information: If this application is a renewal, contact the air program. We may have this



This form is to be submitted, if necessary, along with the Title V (Part 70) Operating Permit or Minor Operating Permit. $(please\ complete\ shaded\ areas)$

1 Facility identific	ation (i.e. Roil	er #1, Unit #1, etc):	1735 L	ab and	d 1742 l	_ab					
2. Manufacturer:	3M		ıfacture		Va	rious					
3. Model number:	Custom			Iviano	<u> </u>	uate.		11000			
4. Type (i.e., steam boiler, simple cycle combustion turbine, generator, etc.) Ethylene oxide sterilizers											
•											
5. Maximum designed operating rate (name plate): N/A million Btus per hour heat input											
			millior	Btus p	er ho	ur heat input					
or					horsep	ower					
or					kilowa	tts					
6. Check the appropriate box(es) for primary and secondary fuels: N/A											
Natural gas			P	ropane	;						
Distillate oil		Sulfur content	Weight	percent							
Residual oil		Sulfur content			Weight	percent					
Bituminous (Coal	Subbituminou	s Coal			Lignit	e Co	al			
Coal sulfur cont	tent	Weight percer	t Coal	ash coi	ntent		We	eight percent			
Other (please	e specify)		1								
7. Has a stack test l	een conducted	(check appropriate	box)?		Yes	S	x	No			
	Department alre	l, please attach a copeady has a copy of t									
Date of most recen	t stack test:										
Control Equipment: If applicable, types of air pollution control equipment (Examples: baghouse, cyclone, wet scrubber, electrostatic precipitator, thermal oxidizer, miscellaneous control device, etc.).											
Catalytic Ethylene Oxide Abator (1735 lab only)											
Please complet	te the appropr	iate air quality per	mit appli	cation	form f	or each	type	of control			

equipment that controls air emissions from this operation.

Stack Information: If this application is a renewal, contact the air program. We may have this information.										
STACK 1742LAB										
X- Coordinate or Easting:		feet	678,343.306	meters						
Y- Coordinate or Northing:		feet	4,907,305.364	meters						
Base Elevation of Stack:	1,667	feet		meters						
Stack Height:	47	feet		meters						
Exit Stack Diameter	1.3 x 0.9	feet		meters						
Exit Stack Temperature	Ambient	Ambient degrees Fahrenheit								
Exit Stack Velocity and/or Fl	ow Rate:	•								
Velocity:	feet per	second		meters per second						
<u> </u>		and/or								
Flow Rate: 500	actual cubic feet per	minute	actual cubi	c meters per second						



Air Quality Permit Application Form Miscellaneous Control Device

This form is to be submitted, if necessary, along with the Title V (Part 70) Operating Permit, Minor Operating Permit, or the General Permits.

(please complete shaded areas)

n	escribe	the	miscell	laneous	control	device	and l	how it	works.
IJ	restrine	шс	HIIISCEH	ancous		uevice	and	111/1/1/11	WUI NO.

Catalytic Ethylene Oxide Abator													
Equipment and processes served by this baghouse (please list all equipment and processes):													
	Equipment and Processes												
1. Unit #13a –	Unit #13a – 1735 Film Lab												
2.													
3.													
4.													
5.													
Manufacturer II	Manufacturer Information:												
Manufacturer?		Anguil											
Manufacturer dat	æ?	Unknown			Installation da	ite?	May 20)14					
Manufacturer's de	esign	ed control effic	ciency?			99	%						
Miscellaneous C	ontr	ol Device Ope	ration aı	nd M	aintenance:								
Pressure drop acr	oss c	control unit?	N/A I	nche	s water (minim	um)	N/A	inches water (maximum)					
Inlet Temperature	e?	ambient	Fahre	enhei	t (minimum)			Fahrenheit (maximum)					
Outlet Temperatu	ıre?	275	Fahre	enhei	t (minimum)			Fahrenheit (maximum)					
Describe mainten	ance	of control unit	(use of v	visua	l inspections, m	ainte	nance sc	hedule, etc.):					
The catalyst is re	epla	ced on an as-n	eeded b	asis.									

Miscellaneous Control Device Application Form

STACK 1735LAB				
X- Coordinate or Easting:		feet	678,418	meters
Y- Coordinate or Northing:		feet	4,907,278	meters
Base Elevation of Stack:	1,667	feet		meters
Stack Height:*	40	feet		meters
Exit Stack Diameter	0.83	feet		meters
Exit Stack Temperature	400	degrees Fahre	enheit	
Exit Stack Velocity and/or Flo	w Rate:			
Velocity:	feet per	second		meters per second
	•	and/or		
Flow Rate: 1,000 a	ctual cubic feet per	minute	actual cubi	c meters per second
¹ - Portable asphalt plants, rock	crushers, or concr	ete plants do no	ot have to provide the	e requested

Stack Information: If this application is a renewal, contact the air program. We may have this

information.

information in these categories.

Miscellaneous Control Device Application Form



Air Quality Permit Application Form Storage Tanks

This form is to be submitted, if necessary, along with the Title V (Part 70) Operating Permit or Minor Operating Permit. $(please\ complete\ shaded\ areas)$

1. Facility identifica	., Tank i	#1, Ur	12-A-7, 12-A-8, 12-A-9							
2. Manufacturer?	Claus	on Tank	Co.							
3. Construction date	? 199	91		4. Model nu	ımber?	N/A				
5. Check appropriate box: X Aboveground Underground										
6. Maximum design			gallons	(each)						
7. Check the appropriate box for the type of liquid stored in the storage tank:										
Distillate oil					R	esidua	l oil			
Ethanol	Ethanol JP8 Jet Fuel									
x Other (please specify) LAB (12-A-7), Adhesive (12-A-8 and 12-A-9)										
8. Maximum true va	por pre	ssure of	liquid	?	_					
					millime	ters m	ercury			
or					pounds	per sq	uare incl	n absolute		
or					kilo Pas	cal _		_		
9. Have plans and s	pecificat	tions bee	n sub	mitted to the	Departmo	ent?		Yes	X	No
If no, plea	If no, please attach a copy of the plans and design specifications to the application.									
10. If applicable, types of air pollution control equipment (i.e., wet scrubber, thermal oxidizer, etc.):										
n/a	n/a									
Please complet	e the an	nronria	te air	quality neri	nit annli	cation	form fo	r each ty	ne of cor	itrol



This form is to be submitted, if necessary, along with the Title V (Part 70) Operating Permit or Minor Operating Permit. (please complete shaded areas)

1. Fa	cility	identifica	tion (i.e.	., Boil	ler#1	1, Unit #1, etc):	24J E	xtrusi	on Proc	ess		
2. Manufacturer: Davis Standard Corp. Manufacture date: 2001												01
3. M	odel 1	number:	D-TEX	- 58								
4. Type (i.e., steam boiler, simple cycle combustion turbine, generator, etc.)												
Extru	usion	process										
5. M	5. Maximum designed operating rate (name plate):											
1,905 tons adhesive/yr (solventless coating) million Btus per hour heat input											ur heat input	
	or 400 Lbs resin/hr (extrusion) horsepower											
or kilowatts												
6. Check the appropriate box(es) for primary and secondary fuels:												
	Natural gas Propane											
	Distillate oil Sulfur content Weight percent											
	Res	idual oil				Sulfur content			Weight	percent		
	Bitu	ıminous C	oal			Subbituminous	s Coal			Lignit	e Co	al
С	oal sı	ılfur conte	ent			Weight percen	t Coal	ash co	ontent		We	eight percent
	Oth	er (please	specify))								
7. Ha	ıs a st	ack test b	een cond	lucted	l (che	eck appropriate l	box)?		Ye	s	X	No
					-	ease attach a cop	•				-	
		n. If the D nt stack te	-	ent alr	eady	has a copy of th	ne most r	ecent	stack tes	t, please	spec	ify the date of
		ost recent		et.								
Date	OI III	ost recent	stack tes	st								
Cont	rol E	Equipmen	t: If app	licabl	e, typ	es of air polluti	on contro	ol equi	ipment (Example	es: ba	ighouse,
cyclo	ne, w	vet scrubb	er, electi	rostati	ic pre	ecipitator, therm	al oxidiz	er, mis	scellaneo	ous conti	rol de	evice, etc.).
None	<u> </u>											
		complete	the an	nronr	riata	air quality ner	mit annl	icatio	n form f	or each	type	of control

Please complete the appropriate air quality permit application form for each type of control equipment that controls air emissions from this operation.

Stack Information: If this application is a renewal, contact the air program. We may have this information. STACK 24J-1 678,367.840 X- Coordinate or Easting: feet meters Y- Coordinate or Northing: feet 4,907,125.212 meters Base Elevation of Stack: 1,667 feet meters Stack Height: 47 feet meters 1.5 x 1.8 Exit Stack Diameter feet meters Exit Stack Temperature Ambient degrees Fahrenheit Exit Stack Velocity and/or Flow Rate: feet per second Velocity: meters per second and/or 2,000 Flow Rate: actual cubic feet per minute actual cubic meters per second STACK 24J-2 678,368.095 X- Coordinate or Easting: feet meters 4,907,121.246 Y- Coordinate or Northing: feet meters Base Elevation of Stack: 1,667 feet meters Stack Height: feet meters **Exit Stack Diameter** 1.5 x 1.8 feet meters **Ambient** Exit Stack Temperature degrees Fahrenheit Exit Stack Velocity and/or Flow Rate: feet per second Velocity: meters per second and/or 2,100 Flow Rate: actual cubic feet per minute actual cubic meters per second **STACK 24J-3** X- Coordinate or Easting: feet 678,368.357 meters 4,907,117.890 Y- Coordinate or Northing: feet meters Base Elevation of Stack: 1,667 feet meters Stack Height: 47 feet meters 1.5 x 1.1 Exit Stack Diameter feet meters **Ambient** degrees Fahrenheit Exit Stack Temperature Exit Stack Velocity and/or Flow Rate: Velocity: feet per second meters per second and/or Flow Rate: 3,700 actual cubic feet per minute actual cubic meters per second

	_				
	feet	678,368.615	meters		
	feet	4,907,114.228	meters		
1,667	feet		meters		
47	feet		meters		
1.5 x 1.1	feet		meters		
75	degrees Fahi	renheit	•		
ow Rate:	•				
feet per	second		meters per second		
	and/or		•		
actual cubic feet per	minute	actual cubi	c meters per second		
	-	_			
	feet	678,366.120	meters		
	feet	4,907,133.768	meters		
1,667	feet		meters		
47	feet		meters		
1.0 x 1.0	feet		meters		
Ambient	degrees Fahrenheit				
ow Rate:					
feet per	second		meters per second		
:	and/or				
actual cubic feet per	minute	actual cubi	c meters per second		
	1,667 47 1.0 x 1.0 Ambient ow Rate:	feet feet feet feet feet feet feet feet	feet feet 1,667 feet 1.5 x 1.1 feet 75 degrees Fahrenheit ow Rate: feet per second and/or actual cubic feet per minute feet feet 678,366.120 feet 4,907,133.768 feet 1,667 feet 1.0 x 1.0 feet Ambient feet per second and/or feet feet 1,667 feet feet feet feet feet feet fact feet feet feet fact feet feet feet fact feet feet fact feet fact feet feet feet fact feet feet fact fact feet fact Ambient fact fact fact fact fact fact fact fact fact Ambient fact Ambient fact fact fact fact fact fact fact fact fact Ambient fact fact		



This form is to be submitted, if necessary, along with the Title V (Part 70) Operating Permit or Minor Operating Permit. (please complete shaded areas)

1 Fa	cility	identifica	tion (i e	Roiler	#1, Unit #1, etc):	22.1.9	Solveni	less Coa	nter		
		cturer:			rd Corp.			ufacture		199	93
		number:	60IN60		. ш. ос. р.		Iviai	iaracture	dute.		
					vole combustion tu	rhine o	enerato	r etc)			
	4. Type (i.e., steam boiler, simple cycle combustion turbine, generator, etc.) Extrusion process										
5. Maximum designed operating rate (name plate):											
0.18					million Btus per hour heat input						
or 2,100				Ib resin pellets/hr (extrusion)							
or 600 Ib adhesive /hr (solventless coating)											
6. Ch	eck t	he approp	riate box	(es) for	primary and secor	ndary fu	els:	-			
Х		ural gas		, ,			Propan	e			
	Dist	tillate oil			Sulfur content			Weight	percent		
	Res	idual oil			Sulfur content			Weight	percent		
	Bitı	ıminous C	oal		Subbituminous	Coal			- Lignite	e Co	al
C	oal sı	ılfur conte	ent		Weight percent	t Coa	l ash co	ontent		We	eight percent
	Oth	er (please	specify)			I					
7. Ha	is a st	ack test b	een cond	lucted (check appropriate b	oox)?	х	Yes	;		No
appli	catio		D epartme		please attach a cop dy has a copy of th						
Date	of m	ost recent	stack tes	st: O	ctober 29, 2002						
	Control Equipment: If applicable, types of air pollution control equipment (Examples: baghouse, cyclone, wet scrubber, electrostatic precipitator, thermal oxidizer, miscellaneous control device, etc.).										
None)										
P	lease	complete			te air quality peri					type	of control

equipment that controls air emissions from this operation.

Stack Information: If this application is a renewal, contact the air program. We may have this information. STACK 22J-1 X- Coordinate or Easting: feet 678,315.968 meters Y- Coordinate or Northing: feet 4,907,120.994 meters Base Elevation of Stack: 1,667 feet meters Stack Height: 47 feet meters 0.8 x 1.1 Exit Stack Diameter feet meters Exit Stack Temperature 72 degrees Fahrenheit Exit Stack Velocity and/or Flow Rate: feet per second Velocity: meters per second and/or 1,200 Flow Rate: actual cubic feet per minute actual cubic meters per second STACK 22J-2 678,294.361 X- Coordinate or Easting: feet meters Y- Coordinate or Northing: feet 4,907,123.707 meters Base Elevation of Stack: 1,667 feet meters 48.5 Stack Height: feet meters Exit Stack Diameter 0.8×0.9 feet meters 78 degrees Fahrenheit Exit Stack Temperature Exit Stack Velocity and/or Flow Rate: Velocity: feet per second meters per second and/or Flow Rate: 1,290 actual cubic feet per minute actual cubic meters per second **STACK 22J-3** 678,312.944 X- Coordinate or Easting: feet meters Y- Coordinate or Northing: feet 4,907,122.861 meters Base Elevation of Stack: 1,667 feet meters 48.5 Stack Height: feet meters Exit Stack Diameter 0.8×0.9 feet meters Exit Stack Temperature 67 degrees Fahrenheit Exit Stack Velocity and/or Flow Rate: Velocity: feet per second meters per second and/or 1,280 Flow Rate: actual cubic feet per minute actual cubic meters per second

	feet	678,334.879	meters
	feet	4,907,121.973	meters
1,667	feet		meters
47.5	feet		meters
1.3 x 1.0	feet		meters
71	degrees Fahre	nheit	
ow Rate:			
feet per	second		meters per second
	and/or		
actual cubic feet per	minute	actual cubi	c meters per second
	feet	678,319.625	meters
	feet	4,907,120.948	meters
1,667	feet		meters
45.5	feet		meters
0.8 x 0.7	feet		meters
71	degrees Fahre	nheit	
w Rate:			
feet per	second		meters per second
	and/or		
actual cubic feet per	· minute	actual cubi	c meters per second
	1,667 45.5 0.8 x 0.7 71 0w Rate:	1,667 47.5 1.3 x 1.0 71 degrees Fahre ow Rate: feet per second and/or actual cubic feet per minute feet feet feet feet degrees Fahre ow Rate: feet per second and/or actual cubic feet per minute feet feet feet feet feet feet feet	feet 4,907,121.973 1,667 feet 47.5 feet 1.3 x 1.0 feet degrees Fahrenheit w Rate: feet per second and/or actual cubic feet per minute feet feet 678,319.625 4,907,120.948 1,667 feet 45.5 feet 0.8 x 0.7 feet 71 degrees Fahrenheit w Rate: feet per second and/or feet 1,667 feet 45.5 feet 0.8 x 0.7 feet 71 degrees Fahrenheit



This form is to be submitted, if necessary, along with the Title V (Part 70) Operating Permit or Minor Operating Permit. $(please\ complete\ shaded\ areas)$

1. Facility identificat	tion (i.e., Bo	oiler #1, Unit #1, etc):	21J Ex	ctrusio	n Proc	ess		
2. Manufacturer:	NRM	, , , , , , , , , , , , , , , , , , , ,		Manu	ıfacture	e date:	197	74
3. Model number:	Pacemake	r III					1	
4. Type (i.e., steam boiler, simple cycle combustion turbine, generator, etc.)								
Extrusion process								
5. Maximum designed operating rate (name plate):								
1,9	lb resin pellets/hr m	illion Bt t	us per l	iour he	at input			
or	or horsepower							
or		kilowatts						
6. Check the appropr	riate box(es)	for primary and secon	dary fue	ls:				
Natural gas		P	ropane					
Distillate oil	Sulfur content	Weight percent						
Residual oil		Sulfur content	Weight percent					
Bituminous Co	oal	Subbituminous	Coal			Lignit	e Coa	al
Coal sulfur conte	nt	Weight percent	Coal	ash cor	ntent		We	eight percent
Other (please s	specify)							
7. Has a stack test be	en conducte	ed (check appropriate b	ox)?		Ye	es	X	No
	epartment a	ed, please attach a copy lready has a copy of th						
Date of most recent s	stack test:							
Control Equipment: If applicable, types of air pollution control equipment (Examples: baghouse, cyclone, wet scrubber, electrostatic precipitator, thermal oxidizer, miscellaneous control device, etc.).								
None								

Please complete the appropriate air quality permit application form for each type of control equipment that controls air emissions from this operation.

Stack Information: If this a information.	pplication is a renew	al, contact the a	iir program. We may	have this				
STACK 21J-1								
X- Coordinate or Easting:		feet	678,334.879	meters				
Y- Coordinate or Northing:		feet	4,907,121.973	meters				
Base Elevation of Stack:	1,667	feet		meters				
Stack Height:	47.5	feet		meters				
Exit Stack Diameter	1.3 x 1.0	feet		meters				
Exit Stack Temperature	71	degrees Fahre	nheit					
Exit Stack Velocity and/or F	low Rate:	•						
Velocity:	feet per	second		meters per second				
	and/or							
Flow Rate: 1,320	actual cubic feet per	minute	actual cubi	c meters per second				
STACK 21J-2								
X- Coordinate or Easting:		feet	678,319.625	meters				
Y- Coordinate or Northing:		feet	4,907,120.948	meters				
Base Elevation of Stack:	1,667	feet		meters				
Stack Height:	45.5	feet		meters				
Exit Stack Diameter	0.8 x 0.7	feet		meters				
Exit Stack Temperature	71	degrees Fahre	nheit					
Exit Stack Velocity and/or F	low Rate:	<u>'</u>						
Velocity:	feet per	second		meters per second				
		and/or						
Flow Rate: 1,880	actual cubic feet per	minute	actual cubi	c meters per second				



Air Quality Permit Application Form Paint Booth Maker Line

This form is to be submitted, if necessary, along with the Title V (Part 70) Operating Permit or Minor Operating Permit. (please complete shaded areas)

1. Facility identifica	ation (i.e., Paint	Booth #1, Unit	#1, etc):	4K Ma	aker Li	ne			
2. Manufacturer:	3M Custom		<u> </u>	I	Manufa	cture dat	e: 19	71	
3. Model number:	3. Model number: Custom								
4. Date Paint Booth	Maker Line ma	nufactured:	1971						
5. Date Paint Booth Maker Line installed: 1971									
6. Describe items to be coated: Non-woven webs									
7. Check the approp	riate box(es) fo	r the method of	spraying:	N/A					
Air Ato	mization		Airless El	ectrosta	atic				
Disc			Airless						
Air-Ato	omized		Powdered						
Other (1	please describe)	\rightarrow							
8. Amount of over s	pray (percent)	N/A							
9. Number of Hours	per day paint b	ooth Maker Lin	e is opera	rated: Based on demand; capable of					
10. Number of days	per year paint l	oooth Maker Lir	ne is opera	ted:	opera	ating 24	hrs/day	/, 365 d	days/yr
11. Is recycling or d	istillation used	to recycle spent	cleaning	solvent	?		Yes	x	No
12. If recycled, nam	ne of business th	nat recycles sper	nt cleaning	g solver	nt and a	ımount re	cycled	?	
			N/A		•				
13. Has a stack test	been conducted	(check appropr	iate box)?			x	Yes		No
If a stack test has be application. If the Γ most recent stack test	Department alrea		1 0						date of
Date of most recent	Date of most recent stack test: April 18, 2000								
Control Equipment: If applicable, types of air pollution control equipment (Examples: baghouse, cyclone, wet scrubber, electrostatic precipitator, thermal oxidizer, miscellaneous control device, etc.).									
None									

Please complete the appropriate air quality permit application form for each type of control equipment that controls air emissions from this operation.

Enclose a copy of the material safety data sheet (MSDS) for each of the following products used at your business (please indicate on the MSDS if the product is a primer, base coat, etc.):

3M Brookings uses a wide variety of coating solutions. VOC potential to emit calculations are based on maximum physical operating parameters of the maker. HAP speciation is based on 2014-2015 material usage data.



Note: Each MSDS must contain at least the following information for the department to complete its review of your application:



Weight per gallon of product



List of ingredients



Weight percent of each ingredient

How much of each type of paint, primer, thinner and solvent was used in the past 12 months at this paint booth Coating Line? **N/A**

Prin	ner		
	Description	Amount	
1.			gallons
Base	e Coat		
	Description	Amount	
1.			gallons
Pain	t		
	Description	Amount	
1.			gallons

Торо	coat						
	Description	Amount					
1.		gallons					
Thin	Thinner						
	Description	Amount					
1.		gallons					
Solv	ent						
	Description	Amount					
1.		gallons					

NAMED AND A COLUMN TO THE COLUMN	Easting:			feet			meters
Coordinate or				feet			meters
se Elevation o				feet			meters
ck Height:				feet			meters
it Stack Diam	eter			feet			meters
it Stack Temp	erature			degrees F	ahrenheit		
it Stack Veloc	ity and/or Fl	ow Rate:					
elocity:			feet per	second			meters per second
				and/or			
ow Rate:		actual cubi	ic feet per	minute		actual cubi	c meters per second



Air Quality Permit Application Form Paint Booth Maker Line

This form is to be submitted, if necessary, along with the Title V (Part 70) Operating Permit or Minor Operating Permit. (please complete shaded areas)

1. Facility identification	tion (i.e., Paint Bootl	n #1, Unit #	1, etc):	5K Ma	aker Line				
2. Manufacturer:	3M Custom			N	Manufact	are date:	1971		
3. Model number:	Custom								
4. Date Paint Booth	Maker Line manufac	tured:	1971						
5. Date Paint Booth Maker Line installed:									
6. Describe items to be coated:				oven w	/ebs				
7. Check the appropri	riate box(es) for the	method of s	praying:	N/A					
Air Ato	mization	A	irless El	ectrosta	ntic				
Disc		A	irless						
Air-Ato	mized	P	owdered						
Other (p	olease describe) →	l .							
8. Amount of over s	pray (percent)	N/A							
9. Number of Hours	per day paint booth	Maker Line	is operat	ted:	Based	on deman	nd; capa	ble	of
10. Number of days			-		operati	ng 24 hrs	/day, 36	5 da	ays/yr
11. Is recycling or di	istillation used to rec	ycle spent c	leaning s	solvent'	?	Ye	s x		No
12. If recycled, nam		-	_			ount recyc	cled?	_	
<u> </u>		<u> </u>	/A						
13. Has a stack test b	peen conducted (chec	ck appropria	te box)?			Ye	s X	T	No
	If a stack test has been conducted, please attach a copy of the most recent stack test report to this application. If the Department already has a copy of the most recent stack test, please specify the date of								
Date of most recent	stack test:								
cyclone, wet scrubbe	Control Equipment: If applicable, types of air pollution control equipment (Examples: baghouse, cyclone, wet scrubber, electrostatic precipitator, thermal oxidizer, miscellaneous control device, etc.).								
None									

Please complete the appropriate air quality permit application form for each type of control equipment that controls air emissions from this operation.

Enclose a copy of the material safety data sheet (MSDS) for each of the following products used at your business (please indicate on the MSDS if the product is a primer, base coat, etc.):

3M Brookings uses a wide variety of coating solutions. VOC potential to emit calculations are based on maximum physical operating parameters of the maker. HAP speciation is based on 2014-2015 material usage data.



Note: Each MSDS must contain at least the following information for the department to complete its review of your application:



Weight per gallon of product



List of ingredients



Weight percent of each ingredient

How much of each type of paint, primer, thinner and solvent was used in the past 12 months at this paint booth Coating Line? **N/A**

Prin	ner		
	Description	Amount	
1.			gallons
Base	Coat		
	Description	Amount	
1.			gallons
Pain	t		
	Description	Amount	
1.			gallons

Торо	coat						
	Description	Amount					
1.		gallons					
Thin	Thinner						
	Description	Amount					
1.		gallons					
Solv	ent						
	Description	Amount					
1.		gallons					

information.	optication is a renewa	ar, contact the a	n program. we may	nave uns
STACK 5K-1				
X- Coordinate or Easting:		feet	678,330.384	meters
Y- Coordinate or Northing:		feet	4,907,247.919	meters
Base Elevation of Stack:	1,667	feet		meters
Stack Height:	53	feet		meters
Exit Stack Diameter	1.8 x 2.5	feet		meters
Exit Stack Temperature	370	degrees Fahre	nheit	•
Exit Stack Velocity and/or Flo	ow Rate:	•		
Velocity:	feet per	second		meters per second
		and/or		
Flow Rate: 2,000	actual cubic feet per	minute	actual cubi	c meters per second
STACK 5K-2				
X- Coordinate or Easting:		feet	678,336.163	meters
Y- Coordinate or Northing:		feet	4,907,246.931	meters
Base Elevation of Stack:	1,667	feet		meters
Stack Height:	53	feet		meters
Exit Stack Diameter	1.3 x 1.8	feet		meters
Exit Stack Temperature	390	degrees Fahre	nheit	•
Exit Stack Velocity and/or Flo	ow Rate:	•		
Velocity:	feet per	second		meters per second
		and/or		•
Flow Rate: 1,400	actual cubic feet per	minute	actual cubi	c meters per second



Air Quality Permit Application Form Paint Booth Maker Line

This form is to be submitted, if necessary, along with the Title V (Part 70) Operating Permit or Minor Operating Permit. (please complete shaded areas)

1. Facility identification (i.e., Paint Booth #1, Unit #1, etc): 6K Maker Line							
2. Manufacturer: 3M Custom				ı	Manufacture date:	1971	
3. Model number:							
4. Date Paint Booth Maker Line manufact		ctured:	1971				
5. Date Paint Booth	l:	1971					
6. Describe items to		Non-woven webs					
7. Check the appropriate box(es) for the method of spraying: N/A							
Air Atomization			Airless Electrostatic				
Disc			Airless				
Air-Atomized			Powdered				
Other (please describe) →			·				
8. Amount of over spray (percent) N/		N/A	N/A				
9. Number of Hours per day paint booth Maker Line			e is operat	is operated: Based on demand; capable of			
10. Number of days per year paint booth Maker Line i				is operated: operating 24 hrs/day, 365 days/yr			
11. Is recycling or distillation used to recycle spent cleaning solvent? Yes X N					s X No		
12. If recycled, name of business that recycles spent cleaning solvent and amount recycled?							
N/A							
13. Has a stack test been conducted (check appropriate box)? Yes X No							
If a stack test has been conducted, please attach a copy of the most recent stack test report to this application. If the Department already has a copy of the most recent stack test, please specify the date of most recent stack test.							
Date of most recent stack test:							
Control Equipment: If applicable, types of air pollution control equipment (Examples: baghouse, cyclone, wet scrubber, electrostatic precipitator, thermal oxidizer, miscellaneous control device, etc.).							
None							

Please complete the appropriate air quality permit application form for each type of control equipment that controls air emissions from this operation.

Enclose a copy of the material safety data sheet (MSDS) for each of the following products used at your business (please indicate on the MSDS if the product is a primer, base coat, etc.):

3M Brookings uses a wide variety of coating solutions. VOC potential to emit calculations are based on maximum physical operating parameters of the maker. HAP speciation is based on 2014-2015 material usage data.



Note: Each MSDS must contain at least the following information for the department to complete its review of your application:



Weight per gallon of product



List of ingredients



Weight percent of each ingredient

How much of each type of paint, primer, thinner and solvent was used in the past 12 months at this paint booth Coating Line? **N/A**

Prin	ner		
	Description	Amount	
1.			gallons
Base	Coat		
	Description	Amount	
1.			gallons
Pain	t		
	Description	Amount	
1.			gallons

Торо	coat	
	Description	Amount
1.		gallons
Thin	ner	
	Description	Amount
1.		gallons
Solv	ent	
	Description	Amount
1.		gallons

Stack Information: If this ap information. See also form t		al, contact the a	ir program. We may	have this
STACK 6K-1				
X- Coordinate or Easting:		feet	678,332.744	meters
Y- Coordinate or Northing:		feet 4,907,241.792		meters
Base Elevation of Stack:	1,671	feet	meters	
Stack Height:	44.5	feet		meters
Exit Stack Diameter	1.3 x 0.9	feet		meters
Exit Stack Temperature	435	degrees Fahre	enheit	•
Exit Stack Velocity and/or Flo	ow Rate:	•		
Velocity:	feet per	second		meters per second
		and/or		•
Flow Rate: 3,350	actual cubic feet per	minute	actual cubi	c meters per second
STACK 6K-2				
X- Coordinate or Easting:		feet	678,347.346	meters
Y- Coordinate or Northing:		feet	4,907,239.473	meters
Base Elevation of Stack:	1,671	feet		meters
Stack Height:	45	feet		meters
Exit Stack Diameter	1.0 x 1.0	feet		meters
Exit Stack Temperature	390	degrees Fahre	enheit	•
Exit Stack Velocity and/or Flo	ow Rate:			
Velocity:	feet per	second		meters per second
		and/or		•
Flow Rate: 8,000	actual cubic feet per	minute	actual cubi	c meters per second



This form is to be submitted, if necessary, along with the Title V (Part 70) Operating Permit or Minor Operating Permit. (please complete shaded areas)

1. Facility identifica	ation (i.e., Boiler #	‡1, Unit #1, etc):	Three	(3) Co	oling T	owers		
2. Manufacturer:	Evapco / Tower	Manu	facture da	te:	2013 / 1998 / 2000			
3. Model number:								
4. Type (i.e., steam	boiler, simple cyc	le combustion tu	rbine, gei	neratoi	r, etc.)			
5. Maximum design	ed operating rate	(name plate):			_			
	Mgal rate)	/min (wat	er ci	rculation				
or					horse	power		
or					kilow	atts		
6. Check the approp	riate box(es) for p	orimary and secon	ndary fue	els:				
Natural gas			P	Propane	e			
Distillate oil		Sulfur content			Weigh	t percent		
Residual oil		Sulfur content			Weigh	t percent		
Bituminous C	Coal	Subbituminous	s Coal			Lignite	Coa	1
Coal sulfur conte	ent	Weight percen	t Coal	ash co	ntent		Wei	ght percent
Other (please	specify)	•						
7. Has a stack test be	een conducted (ch	neck appropriate	box)?		Ye	es Z	X	No
If a stack test has be application. If the E most recent stack test	Department alread		•				•	
Date of most recent	stack test: n/a							
Control Equipmen cyclone, wet scrubb								
n/a								

Please complete the appropriate air quality permit application form for each type of control equipment that controls air emissions from this operation.

Stack Information: If this ap information.	optication is a reflew	ar, contact the a	ur program. we may	nave uns
X- Coordinate or Easting:		feet		meters
Y- Coordinate or Northing:		feet		meters
Base Elevation of Stack:		feet		meters
Stack Height:		feet		meters
Exit Stack Diameter		feet		meters
Exit Stack Temperature		degrees Fahre	nheit	•
Exit Stack Velocity and/or Fl	ow Rate:	<u>.</u>		
Velocity:	feet per	second		meters per second
		and/or		_



Air Quality Permit Application Form Generators and Fire Pumps

This form is to be submitted, if necessary, along with the Title V (Part 70) Operating Permit or Minor Operating Permit. (please complete shaded areas)

1. Facili	ty identifica	ntion (e.g. G	enerator #	#1, Fire Pun	np #1, et	c.): I	Diesel Generato	r #2		
2. Manu		Detroit Di			-					
3. Mode	l number:	Series 60	Series 60							
4. Type	4. Type (e.g. compression ignition, spark ignition, fire pump, etc.)									
Compres	ssion Ignitio	on								
		ed operating	g rate (nar	ne plate):						
	635 horsepower with generator efficiency:									
or		400		mechanica	al kilowa	itts wit	h generator eff	iciency:		
6. Check	the approp	oriate box(es	s) for prim	ary and sec	ondary f	uels:		!		
Na	itural gas					Propa	ane			
X Di	stillate oil		Sulf	ur content	0.0015	%	Weight percer	ıt		
Re	sidual oil		Sulf	ur content			Weight percer	nt		
Ot	her (e.g. co	al, wood, et	c.)							
7. Is the	unit equip	oed with a n	on-settabl	le clock?		X	Yes		No	
	ıfacture dat							2007		
	If t	the manufa	cture dat	e is prior t	o July 11	1, 2005	5, skip to Quest	tion #11		
9. Will t		rate more th						Yes	X No	
		If yes pr	oceed to	Question #	10, if no	skip t	o Question #11	.•		
							nanufacture dat			
	ll crankcas to Questio		be control	lled? (If th i	is is for a	a fire _l	pump engine, s	kip Ques	tion #10 and	
proceed	Questio			N. I	£ 1 -		1			
n/a		Yes		No I	f yes, ple	ease ex	piain:			
11/ 4										
	11. Does the emergency generator or fire pump operate less than 500 X Yes No hours per year?									
12. Wha	t is the disp	lacement of	f the unit i	n liters?		14				
13. How	many cylin	nders does tl	he unit hav	ve?		6				
Generato	13. How many cylinders does the unit have? Generator/Fire Pump Application Form Page 1 of 2									

14. Please list the Manufactu	re r Gua ra	nteed Emission Rates or Tier Emission Standards and attach
supporting documentation in	g/KW-hr	r g/HP-hr. (circle the units reported for emissions)

$NMHC + NO_X$	2.66	NO _X	
НС		CO	0.98
PM	0.13	Tier (if applicable)	3

15. Has a stack test been conducted (check appropriate box)? Yes X No

If a stack test has been conducted, please attach a copy of the most recent stack test report to this application. If the Department already has a copy of the most recent stack test, please specify the date of most recent stack test.

Date of most recent stack test:

Control Equipment: If applicable, types of air pollution control equipment (Examples: baghouse, cyclone, wet scrubber, electrostatic precipitator, thermal oxidizer, miscellaneous control device, etc.).

n/a

Please complete the appropriate air quality permit application form for each type of control equipment that controls air emissions from this operation.

Stack Information: If this application is a renewal, contact the air program to determine if we already have this information.

X- Coordinate or Easting: feet Y- Coordinate or Northing: feet Base Elevation of Stack: 1,667 feet 12.5 Stack Height: feet Exit Stack Diameter 0.6 feet Exit Stack Temperature 1,025 degrees Fahrenheit

678,276.79 meters 4,907,302.28 meters 509.32 meters 3.81 meters 1.37 meters

Exit Stack Velocity and/or Flow Rate:

Velocity: 3.79

feet per second

1.16 meters per second

and/or

Flow Rate:

3,594

actual cubic feet per minute

actual cubic meters per second



Air Quality Permit Application Form Generators and Fire Pumps

This form is to be submitted, if necessary, along with the Title V (Part 70) Operating Permit or Minor Operating Permit. $(please\ complete\ shaded\ areas)$

1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ty identifies	1110n (# (f * #n/	rator #1 Hire Pur	nn #1 etc)· 1	Diesel Generato	r #1			
2. Manu	•	Ziegler/Cater	erator #1, Fire Pur	пр #1, е.с).	Fieser Ocherato	ι π Ι			
	l number:	3406	ршаг						
	ype (e.g. compression ignition, spark ignition, fire pump, etc.)								
		-	, spark ignition, iii	re pump, etc.)					
•	ssion Ignitio		1. (
5. Maxii	5. Maximum designed operating rate (name plate): hersenewer with generator efficiency:								
		horsepower with generator efficiency: mechanical kilowatts with generator efficiency:							
or _		400			th generator eff	iciency:			
	6. Check the appropriate box(es) for primary and secondary fuels:								
	tural gas			Prop	1				
	stillate oil		Sulfur content	0.0015%	Weight percer				
Re	sidual oil		Sulfur content		Weight percer	nt			
Ot	her (e.g. co	al, wood, etc.)							
7. Is the	unit equip	ped with a non-	-settable clock?	X	Yes		No		
8. Manu	ıfacture dat	e?				1996			
	If t	the manufactu	re date is prior t	o July 11, 200	5, skip to Quest	tion #11			
9. Will t	he unit ope	rate more than	100 hours per yea	r?		Yes	X No		
	9. Will the unit operate more than 100 hours per year? Yes X No If yes proceed to Question #10, if no skip to Question #11.								
10. If the generator operates more than 500 hours per year and the manufacture date is after to July 11,									
	•	operates more	than 500 hours pe	r year and the			•		
2005, wi	ll crankcas	operates more e emissions be	_	r year and the			•		
2005, wi	•	operates more e emissions be	than 500 hours pe controlled? (If th i	r year and the i	pump engine, s		•		
2005, wi	ll crankcas	operates more e emissions be	than 500 hours pe controlled? (If th i	r year and the	pump engine, s		•		
2005, wi	ll crankcas	operates more e emissions be on #11)	than 500 hours pe controlled? (If th i	r year and the i	pump engine, s		•		
2005, wi	ll crankcase to Question	operates more e emissions be on #11) Yes	than 500 hours pe controlled? (If th i	r year and the ris is is for a fire	pump engine, s		tion #10 and		
2005, wi	Il crankcase to Questio	operates more e emissions be on #11) Yes	than 500 hours pe controlled? (If th i	r year and the ris is is for a fire	pump engine, s		•		
n/a 11. Does hours pe	Il crankcase to Questio s the emerger r year?	operates more e emissions be on #11) Yes ency generator	than 500 hours pe controlled? (If th) No I or fire pump oper	r year and the ris is is for a fire	pump engine, s	kip Ques	tion #10 and		
n/a 11. Does hours pe	Il crankcase to Questio s the emerger r year?	operates more e emissions be on #11) Yes ency generator	than 500 hours pe controlled? (If the No I or fire pump oper e unit in liters?	r year and the r is is for a fire If yes, please ex	pump engine, s	kip Ques	tion #10 and		

$NMHC + NO_X$	Not available	NOx		
НС		СО		
PM		Tier (if a	applicable)	
	•			
15. Has a stack test been cond	lucted (check approp	oriate box)?	Yes	X No
	epartment already ha			stack test report to this test, please specify the
Date of most recent stack test	: n/a			
n/a				
Stack Information: If this ap	ent that controls ai	r emissions fr	om this operation	
Please complete the app equipm	ent that controls ai	r emissions fr	om this operation	
Please complete the app equipm Stack Information: If this appropriate the app	ent that controls ai	r emissions fr	om this operation	
Please complete the app equipm Stack Information: If this appropriate the appropriate information appropriate the appropriate appropriate information.	ent that controls ai	r emissions fr	om this operation air program to dete	rmine if we already
Please complete the app equipm Stack Information: If this appears this information. X- Coordinate or Easting: Y- Coordinate or Northing:	ent that controls ai	r emissions fr	om this operation air program to dete	rmine if we already
Please complete the app equipm Stack Information: If this approach the stack information. X- Coordinate or Easting: Y- Coordinate or Northing: Base Elevation of Stack:	pplication is a renewa	r emissions fr al, contact the a feet feet	om this operation air program to dete 678,286.79 4,907,302.28	meters meters
Please complete the app equipm Stack Information: If this appropriate the state of	pplication is a renewa	r emissions fr al, contact the a feet feet feet	om this operation air program to dete 678,286.79 4,907,302.28 509.32	meters meters meters
Please complete the app equipm Stack Information: If this appropriate this information. X- Coordinate or Easting: Y- Coordinate or Northing: Base Elevation of Stack: Stack Height: Exit Stack Diameter	1,667	r emissions fral, contact the affect feet feet feet	678,286.79 4,907,302.28 509.32 3.96 0.18	meters meters meters meters meters meters
Please complete the app equipm Stack Information: If this appropriate this information. X- Coordinate or Easting: Y- Coordinate or Northing: Base Elevation of Stack: Stack Height: Exit Stack Diameter Exit Stack Temperature Exit Stack Velocity and/or Fleater	1,667 13 0.59 1,063 ow Rate:	feet feet feet feet feet feet degrees Fahre	678,286.79 4,907,302.28 509.32 3.96 0.18 enheit	meters meters meters meters meters meters
Please complete the app equipm Stack Information: If this approach the property of the proper	1,667 13 0.59 1,063 ow Rate:	feet feet feet feet feet degrees Fahre	678,286.79 4,907,302.28 509.32 3.96 0.18 enheit	meters meters meters meters meters meters meters meters
Please complete the app equipm Stack Information: If this appeared this information. X- Coordinate or Easting: Y- Coordinate or Northing: Base Elevation of Stack: Stack Height: Exit Stack Diameter Exit Stack Temperature Exit Stack Velocity and/or Fleating	1,667 13 0.59 1,063 ow Rate:	feet feet feet feet feet feet degrees Fahre	678,286.79 4,907,302.28 509.32 3.96 0.18 enheit	meters meters meters meters meters meters



Air Quality Permit Application Form Boiler Turbine or Furnace

This form is to be submitted, if necessary, along with the Title V (Part 70) Operating Permit or Minor Operating Permit. $(please\ complete\ shaded\ areas)$

1. Fa	cility	identifica	tion (i.	e., Bo	iler#	l, Unit #1, et	c):	Boi	ler #4				
2. Ma	anufa	cturer:	John	ston						Manuf	acture da	te:	Nov 2000
3. Mo	odel r	number:	Mode	I PFT	A100	0-4							
4. Ty	pe (i.	e., steam l	oiler,	simpl	e cycl	e combustion	ı tu	rbine, g	enerato	r, etc.)			
Stear	n bo	iler, equip	ped w	ith lo	w-NO	x burners a	nd 1	flue-gas	s recirc	ulation			
5. Ma	aximu	ım designo	ed oper	ating	rate (name plate):							
		33.5 m						illion B	tus per l	nour hea	t input		
	or						ho	rsepow	er with	boiler ef	ficiency:		
	or						kil	lowatts	with bo	iler effic	iency:		
6. Ch	eck t	he approp	riate bo	ox(es)	for p	rimary and se	eco	ndary fu	iels:				
Х	Nati	ural gas							Propan	e			
	Dist	illate oil				Sulfur conte	nt		Weight percent				
	Res	idual oil				Sulfur conte	nt			Weight	percent		
	Bitu	minous C	oal			Subbitumir	ous	s Coal	<u>.</u>		Lignite	Coa	1
Co	oal su	ılfur conte	ent			Weight per	cen	t Coa	ıl ash co	ntent		We	ight percent
	Oth	er (please	specify	7)						•			
7. Ha	s a st	ack test be	een con	ducte	ed (che	eck appropria	ate	box)?	X	Ye	s		No
appli	catio		epartm			ease attach a has a copy o		•					to this ify the date of
Date	of mo	ost recent	stack te	est:	Janu	ary 20, 2010)						
						pes of air polecipitator, the							
None)												
D	loogo	aamnlata	thoo		miata	ain anality	201	mit any	lication	n farm f	on sook t		of control

Please complete the appropriate air quality permit application form for each type of control equipment that controls air emissions from this operation.

Boiler Turbine or Furnace Application Form

Stack Information: If this ap information.	plication is a renewa	al, contact the	air program. We may	have this
STACK BOILER4-1				
X- Coordinate or Easting:		feet	678,280.201	meters
Y- Coordinate or Northing:		feet	4,907,237.532	meters
Base Elevation of Stack:	1,667	feet	509.32	meters
Stack Height:	48.5	feet		meters
Exit Stack Diameter	2.17	feet		meters
Exit Stack Temperature	400	degrees Fahr	renheit	
Exit Stack Velocity and/or Flo	ow Rate:			
Velocity:	feet per	second		meters per second
		and/or		
	actual standard cu per minute	bic feet	actual cubi	c meters per second



Air Quality Permit Application Form Boiler Turbine or Furnace

This form is to be submitted, if necessary, along with the Title V (Part 70) Operating Permit or Minor Operating Permit. $(please\ complete\ shaded\ areas)$

1. Facility identification (i.e., Boiler #1, Unit #1, etc): Boiler #5													
2. Ma	anufa	cturer:	John	ston						Manuf	acture da	te:	Nov 2000
3. Mo	odel r	number:	Mode	I PF1	A100	0-4							
4. Ty	pe (i.	e., steam l	oiler,	simpl	e cycl	e combustion	ı tu	rbine, g	enerato	r, etc.)			
Stea	n bo	iler, equip	ped w	ith lo	w-NO	x burners a	nd 1	flue-gas	s recirc	ulation			
5. Ma	aximı	ım designo	ed oper	ating	rate (1	name plate):							
				33.5	1		million Btus per hour heat input						
	or						ho	rsepow	er with	boiler ef	ficiency:		
	or						kil	lowatts	with bo	iler effic	iency:		
6. Ch	eck t	he approp	riate bo	ox(es)	for p	rimary and so	eco	ndary fu	iels:				
Х	Nati	ural gas	gas Propane										
	Dist	illate oil	Sulfur content				nt		Weight percent				
	Resi	idual oil				Sulfur conte	nt			Weight	percent		
	Bitu	ıminous C	oal			Subbitumir	ous	s Coal			Lignite	Coa	1
C	oal su	ılfur conte	nt			Weight per	cen	t Coa	ıl ash co	ntent		We	ight percent
	Oth	er (please	specify	7)						<u>'</u>			
7. Ha	s a st	ack test be	een cor	nducte	ed (che	eck appropria	ate	box)?	X	Ye	s		No
appli	catio		epartn			ease attach a has a copy o		•					to this ify the date of
Date	of m	ost recent	stack to	est:	Dece	mber 13, 20	10						
	Control Equipment: If applicable, types of air pollution control equipment (Examples: baghouse, cyclone, wet scrubber, electrostatic precipitator, thermal oxidizer, miscellaneous control device, etc.).												
None)												
п	laaaa	aammlata	thos			oin anality	202	mit an-	lication	, form f	on oook 4		of control

Please complete the appropriate air quality permit application form for each type of control equipment that controls air emissions from this operation.

Boiler Turbine or Furnace Application Form

Stack Information: If this application is a renewal, contact the air program. We may have this information. **STACK BOILER5-1** 678,287.322 X- Coordinate or Easting: feet meters 4,907,238.102 Y- Coordinate or Northing: feet meters Base Elevation of Stack: 1,667 feet 509.3 meters Stack Height: 43.5 feet 13.3 meters 2.17 Exit Stack Diameter feet 0.66 meters 420.0 **Exit Stack Temperature** degrees Fahrenheit Exit Stack Velocity and/or Flow Rate: Velocity: feet per second meters per second and/or Flow Rate: 7,500 actual standard cubic feet actual cubic meters per second per minute



Air Quality Permit Application Form Generators and Fire Pumps

This form is to be submitted, if necessary, along with the Title V (Part 70) Operating Permit or Minor Operating Permit. (please complete shaded areas)

1. Facili	ty identifica	ation (e.g. (Generator #	#1, Fire Pur	np #1, etc	c.): I	Diesel Generate	or #3	
	facturer:	MTU De							
3. Mode	l number:	DS300D	6S						
4. Type	(e.g. compr	ession igni	tion, spark	ignition, fi	re pump,	etc.)			
Compre	ssion Ignitio	on		-					
5. Maxii	5. Maximum designed operating rate (name plate):								
	460 bhp horsepower with generator efficiency:								
or		mechanical kilowatts with generator efficiency: 100							
6. Check	6. Check the appropriate box(es) for primary and secondary fuels:								
Na Na	atural gas	al gas Propane							
X Di	istillate oil		Sulf	ur content	ntent 0.0015% Weight percent				
Re	esidual oil		Sulf	ur content	ontent Weight percent				
Other (e.g. coal, wood, etc.)									
7. Is the unit equipped with a non-settable clock? X Yes No									
8. Manu	ufacture dat	e?						2011	
	If t	the manuf	acture dat	e is prior t	o July 1	1, 2005	5, skip to Ques	stion #11	1
9. Will t	the unit ope	rate more t	han 100 ho	urs per yea	r?			Yes	X No
		If yes p	roceed to	Question #	10, if no	skip t	o Question #1	1.	
							nanufacture da		
	ill crankcas I to Questi o		s be contro	lled? (If th i	is is for a	a fire p	pump engine,	skip Ques	tion #10 and
proceeu	to Questio	Г							
		Yes		No I	f yes, ple	ease ex	plain:		
	11. Does the emergency generator or fire pump operate less than 500 X Yes No hours per year?								
12. Wha	12. What is the displacement of the unit in liters?								
13. How many cylinders does the unit have?									
13. How	many cylir	nders does	the unit ha	ve?		6			

$NMHC + NO_X$	5.58	NO _X						
НС		СО		0.67				
PM	0.06	Tier ((if applicable)	3				
15. Has a stack test been cond	ducted (check ap	opropriate box)?	Yes	X No				
If a stack test has been conducted, please attach a copy of the most recent stack test report to this application. If the Department already has a copy of the most recent stack test, please specify the date of most recent stack test.								
Date of most recent stack test:								
Stack Information: If this ap	nent that contro	ols air emissions	s from this operation	on.				
Please complete the app	nent that contro	ols air emissions	s from this operation	on.				
Please complete the app equipm Stack Information: If this application that information.	nent that contro	ols air emissions	s from this operation	on.				
Please complete the app equipm Stack Information: If this application that the state of the sta	nent that contro	ols air emissions	s from this operation	etermine if we already				
Please complete the app equipm Stack Information: If this ap	nent that contro	newal, contact to	the air program to de 678,240	etermine if we already meters				
Please complete the app equipm Stack Information: If this application approximation approximation approximation approximation approximate or Easting: Y- Coordinate or Northing:	pplication is a re	newal, contact to	the air program to de 678,240	etermine if we already meters meters				
Please complete the app equipm Stack Information: If this aphave this information. X- Coordinate or Easting: Y- Coordinate or Northing: Base Elevation of Stack:	pplication is a re	feet feet feet feet	the air program to de 678,240	meters meters meters meters				
Please complete the app equipm Stack Information: If this aphave this information. X- Coordinate or Easting: Y- Coordinate or Northing: Base Elevation of Stack: Stack Height: Exit Stack Diameter Exit Stack Temperature	1667 12 0.6 824	feet feet feet feet feet feet	he air program to de 678,240 4,907,284	meters meters meters meters meters meters meters				
Please complete the app equipm Stack Information: If this approach that the properties of the stack of the s	1667 12 0.6 824 ow Rate:	feet feet feet feet feet feet degrees Fa	he air program to de 678,240 4,907,284	meters meters meters meters meters meters meters meters				
Please complete the app equipm Stack Information: If this application application are this information. X- Coordinate or Easting: Y- Coordinate or Northing: Base Elevation of Stack: Stack Height:	1667 12 0.6 824 ow Rate:	feet feet feet feet feet feet feet feet	he air program to de 678,240 4,907,284	meters meters meters meters meters meters meters				



This form is to be submitted, if necessary, along with the Title V (Part 70) Operating Permit or Minor Operating Permit. (please complete shaded areas)

1. Facility identifica	ification (i.e., Boiler #1, Unit #1, etc): 21J Corona Treater							
2. Manufacturer:	Pillar Techno	ologies			Manu	facture date	: 5/27/2012	
3. Model number:					- 1			
4. Type (i.e., steam	boiler, simple	cycle combustion tu	rbine,	generator	r, etc.)			
Corona Treater								
5. Maximum design	ned operating ra	nte (name plate):						
					millio	on Btus per l	nour heat input	
or					horse	power		
or		10				atts		
6. Check the appropriate box(es) for primary and secondary fuels:								
Natural gas		Propane						
Distillate oil		Sulfur content			Weigh	t percent		
Residual oil		Sulfur content			Weigh	t percent		
Bituminous C	Coal	Subbituminou	s Coal			Lignite C	Coal	
Coal sulfur conte	ent	Weight percer	nt Co	al ash co	ontent	7	Veight percent	
X Other (please	specify)	Unit will be suppl	ied wit	h electric	city			
7. Has a stack test b	een conducted	(check appropriate	box)?		Y	es X	No	
application. If the I	If a stack test has been conducted, please attach a copy of the most recent stack test report to this application. If the Department already has a copy of the most recent stack test, please specify the date of most recent stack test.							
Date of most recent	stack test:							
Control Equipment: If applicable, types of air pollution control equipment (Examples: baghouse, cyclone, wet scrubber, electrostatic precipitator, thermal oxidizer, miscellaneous control device, etc.).								
NA								

Please complete the appropriate air quality permit application form for each type of control equipment that controls air emissions from this operation.

Stack Information: If this application is a renewal, contact the air program. We may have this information.								
X- Coordinate or Easting:		feet	678,324.070	meters				
Y- Coordinate or Northing:		feet	4,907,134.912	meters				
Base Elevation of Stack:	1667	feet		meters				
Stack Height:	60	feet		meters				
Exit Stack Diameter	0.67	feet		meters				
Exit Stack Temperature	78	degrees Fahre	nheit	•				
Exit Stack Velocity and/or Flo	w Rate:	•						
Velocity:	feet per	second		meters per second				
	and/or							
Flow Rate: 1300	actual cubic feet per	minute 0.66	03 actual cubi	c meters per second				



This form is to be submitted, if necessary, along with the Title V (Part 70) Operating Permit or Minor Operating Permit. (please complete shaded areas)

1. Facility identifica	ation (i.e., Boiler	r #1, Unit #1, etc):	M1 Corona Treater					
2. Manufacturer:	Pillar Technol	logies		Manufactur	e date:	05/2013		
3. Model number:								
4. Type (i.e., steam)	boiler, simple c	ycle combustion tur	bine, generate	or, etc.)				
Corona Treater								
5. Maximum design	ed operating rat	e (name plate):						
				million Btus	million Btus per hour heat input			
or				horsepower				
or		10						
6. Check the appropriate box(es) for primary and secondary fuels:								
Natural gas			Propa	ne				
Distillate oil		Sulfur content		Weight perce	ent			
Residual oil		Sulfur content		Weight percent				
Bituminous C	Coal	Subbituminous	Coal	Lig	nite Coa	al		
Coal sulfur conte	ent	Weight percent	t Coal ash o	content	We	ight percent		
X Other (please	specify)	Electricity						
7. Has a stack test be	een conducted (check appropriate b	oox)?	Yes	X	No		
If a stack test has b application. If the E most recent stack test	Department alrea	please attach a cop ady has a copy of th						
Date of most recent	stack test:							
Control Equipment: If applicable, types of air pollution control equipment (Examples: baghouse, cyclone, wet scrubber, electrostatic precipitator, thermal oxidizer, miscellaneous control device, etc.).								
NA								

Please complete the appropriate air quality permit application form for each type of control equipment that controls air emissions from this operation.

Stack Information: If this applinformation.	ication is a renewal	, contact the air	program. We may h	ave this		
X- Coordinate or Easting:		feet	678,826.6	meters		
Y- Coordinate or Northing:		feet	4,907,173	meters		
Base Elevation of Stack:	1667	feet		meters		
Stack Height:	70	feet		meters		
Exit Stack Diameter	1	feet		meters		
Exit Stack Temperature	75	degrees Fahre	s Fahrenheit			
Exit Stack Velocity and/or Flo	w Rate:					
Velocity:	feet per	second		meters per second		
	8	and/or				
Flow Rate: 1,800	ctual cubic feet per	minute 0.85	actual cubi	c meters per second		



This form is to be submitted, if necessary, along with the Title V (Part 70) Operating Permit or Minor Operating Permit. (please complete shaded areas)

				EGG	~					
1. Fa	cility identifica	tion (i.e., Bo	iler #1, Unit #1, etc):	ECC	G Line	1				
2. Ma	anufacturer:	3M				Manut	facture date:	1973		
3. Mo	odel number:	Custom								
4. Ty	pe (i.e., steam l	poiler, simple	e cycle combustion tur	rbine, g	generato	r, etc.)				
Wate	r-based coater									
5. Ma	aximum design	ed operating	rate (name plate):							
						million	n Btus per h	our heat input		
	or		horsepower							
	or		kilowatts							
6. Ch	eck the approp	riate box(es)	for primary and secon	ndary f	uels:	-				
	Natural gas		Propane							
	Distillate oil		Sulfur content			Weight	percent			
	Residual oil		Sulfur content			Weight	percent			
	Bituminous C	oal	Subbituminous	Coal			Lignite Co	oal		
С	oal sulfur conte	ent	Weight percen	t Co	al ash co	ontent	W	eight percent		
	Other (please	specify)		•			1			
7. Ha	s a stack test be	een conducte	ed (check appropriate l	box)?		Ye	s X	No		
appli		epartment a	ed, please attach a cop lready has a copy of th	•			•			
Date	of most recent	stack test:	n/a							
Control Equipment: If applicable, types of air pollution control equipment (Examples: baghouse, cyclone, wet scrubber, electrostatic precipitator, thermal oxidizer, miscellaneous control device, etc.).										
n/a										

Please complete the appropriate air quality permit application form for each type of control equipment that controls air emissions from this operation.

Stack Information: If this application is a renewal, contact the air program. We may have this information. There is no external exhaust from the ECG Line, emissions are vented internally. X- Coordinate or Easting: feet meters Y- Coordinate or Northing: feet meters Base Elevation of Stack: feet meters Stack Height: feet meters Exit Stack Diameter feet meters Exit Stack Temperature degrees Fahrenheit Exit Stack Velocity and/or Flow Rate: Velocity: feet per second meters per second and/or Flow Rate: actual cubic feet per minute actual cubic meters per second



This form is to be submitted, if necessary, along with the Title V (Part 70) Operating Permit or Minor Operating Permit. (please complete shaded areas)

1 E.	1. Facility identification (i.e., Boiler #1, Unit #1, etc): Attest Coater								
	•		iler #1, Unit #1, etc):	Atte	est Coate	1			
2. Ma	anufacturer:	3M				Manuf	facture date:	2007	
3. Mo	odel number:	Custom							
4. Ty	pe (i.e., steam l	boiler, simple	e cycle combustion tur	bine, g	generato	r, etc.)			
Wate	r-based coater								
5. Ma	aximum design	ed operating	rate (name plate):						
	million Btus per hour heat input								
	or		horsepower						
	or		kilowatts						
6. Ch	6. Check the appropriate box(es) for primary and secondary fuels:								
	Natural gas	Propane							
	Distillate oil		Sulfur content Weight percent						
	Residual oil		Sulfur content			Weight	percent		
	Bituminous C	oal	Subbituminous	Coal			Lignite Co	oal	
C	oal sulfur conte	ent	Weight percent	t Co	al ash co	ontent	W	eight percent	
	Other (please	specify)		•					
7. Ha	s a stack test be	een conducte	ed (check appropriate b	ox)?		Ye	s X	No	
appli		epartment al	ed, please attach a copy lready has a copy of th	•			-		
Date	of most recent	stack test:	n/a						
Control Equipment: If applicable, types of air pollution control equipment (Examples: baghouse, cyclone, wet scrubber, electrostatic precipitator, thermal oxidizer, miscellaneous control device, etc.).									
n/a									

Please complete the appropriate air quality permit application form for each type of control equipment that controls air emissions from this operation.

Stack Information: If this application is a renewal, contact the air program. We may have this information. There is no external exhaust from the Attest Coater, emissions are vented internally. X- Coordinate or Easting: feet meters Y- Coordinate or Northing: feet meters Base Elevation of Stack: feet meters Stack Height: feet meters Exit Stack Diameter feet meters Exit Stack Temperature degrees Fahrenheit Exit Stack Velocity and/or Flow Rate: Velocity: feet per second meters per second and/or Flow Rate: actual cubic feet per minute actual cubic meters per second



This form is to be submitted, if necessary, along with the Title V (Part 70) Operating Permit or Minor Operating Permit. (please complete shaded areas)

1. Facility identifica	1. Facility identification (i.e., Boiler #1, Unit #1, etc): M2 C				Corona Treater			
2. Manufacturer:	Pillar Technolo	ogies			Manu	facture dat	e:	1992
3. Model number:								
4. Type (i.e., steam	boiler, simple cy	cle combustion tur	bine, g	enerato	r, etc.)			
Corona Treater								
5. Maximum design	ed operating rate	e (name plate):			_			
					millio	n Btus per	hou	ır heat input
or					horse	power		
or		10			kilow	atts		
6. Check the appropriate box(es) for primary and secondary fuels:								
Natural gas				Propan	e			
Distillate oil	Sulfur content			Weight percent				
Residual oil		Sulfur content			Weigh	t percent		
Bituminous C	Coal	Subbituminous	Coal			Lignite (Coa	1
Coal sulfur conte	ent	Weight percent	t Coa	al ash co	ntent		We	ight percent
X Other (please	specify)	Electricity						
7. Has a stack test b	een conducted (c	check appropriate b	oox)?		Ye	es X		No
If a stack test has be application. If the I most recent stack te	Department alrea							
Date of most recent	stack test:							
Control Equipment cyclone, wet scrubbe								
NA								

Please complete the appropriate air quality permit application form for each type of control equipment that controls air emissions from this operation.

Stack Information: If this applinformation.	ication is a renewal	, contact the air	program. We may h	ave this		
X- Coordinate or Easting:		feet	678,826	meters		
Y- Coordinate or Northing:		feet	4,907,171	meters		
Base Elevation of Stack:	1667	feet		meters		
Stack Height:	70	feet		meters		
Exit Stack Diameter	1	feet		meters		
Exit Stack Temperature	75	degrees Fahre	s Fahrenheit			
Exit Stack Velocity and/or Flo	w Rate:	•				
Velocity:	feet per	second		meters per second		
		and/or				
Flow Rate: 1,800 a	ctual cubic feet per	minute 0.85	actual cubi	c meters per second		

ID	Insignificant Activity	Basis	SD Admin Rule
IA-1	Quality Control Laboratories and Associated Equipment	Laboratory equipment used exclusively for chemical or physical analysis.	74:36:05:04.01(3) Laboratory equipment used exclusively for chemical or physical analysis.
IA-2	Natural Gas Fired Ovens	Two ovens are associated with the M3 Coating line (2.5 mmBtu/hr each), one with the M4 Coating line (2.4 mmBtu/hr), one with the 5K Maker (2.5 mmBtu/hr), and one with the 6K Maker (1.6 mmBtu/hr). In addition there is a flame treater on the 22 J Solvent-less Coater (0.18 mmBtu/hr), one hot water heater with a heat input capacity of less than 3.5 mmBtu/hr, plus other miscellaneous natural gas burning equipment of less than 3.5 mmBtu/hr heat input.	74:36:05:04.01(4) A unit that has a heat input capability of not more than 3,500,000 Btus per hour, except for units fueled with wood or coal.
IA-3	Core and Knife Grinding Room	Paper cores are sized and knives/cutters are reground. These machines have filters which are changed weekly by the operators. There is one combined exhaust vented to the outside.	74:36:05:04.01(6) Routine housekeeping or plant activities.
IA-4	Maintenance Activities	Several welders and grinders are used to maintain plant equipment. Several spray cans of various oils, silicons, and lubricants are also used, but in very low quantities. A degreaser tank is also located in the maintenance area.	74:36:05:04.01(6)
IA-5	Adhesive Storage Tanks 12-A-1 thru 12-A-6 and 12-A-10 and 12-A-11.	There are eight 7,500 gallon indoor, adhesive storage tanks with modeled VOC emissions significantly less than two tons per year. Higher volume coatings are stored in three 15,000 gallon indoor tanks (12-A-7, 12-A-8, and 12-A-9). These tanks are permitted as their emissions are greater than the two ton per year threshold.	74:36:05:04.01(7)&(8) A unit that has the potential to emit two tons or less per year of any criteria or hazardous air pollutant before the application of control equipment.
IA-6	Attest Area	Sterilization assurance products are manufactured. Operations include mixing water-based solutions, incubation of spores, and assembly of indicators. There are no VOC or HAP emissions associated with these processes.	74:36:05:04.01(7)&(8)
IA-7	Corona Treaters	Corona treaters with potential emissions below 2 tons/year are as follows: 24J Extruding Line Corona Treater #1 (5 kW); 24J Extruding Line Corona Treater #2 (5 kW); M6 Coating Line corona treater (nitrogen-purged with no emissions); Delta 2 Line corona treater (1 kW); and Window Out 11 corona treater (3 kW).	74:36:05:04.01(7)&(8)
IA-8	Drape Converting	Drapes are converted and packaged for medical operations. Emissions are assumed to be negligible.	74:36:05:04.01(7)&(8)
IA-9	Embossing/Cleaning	Three embossing units. An estimate of 0.0003 lb of particulate is emitted per lb of material. This results in maximum emissions of one ton per year. Rolls are cleaned daily in two gallons of sodium hydroxide and water. Emissions are assumed to be a trace amount of sodium hydroxide and water vapor.	74:36:05:04.01(7)&(8)
IA-10	Fire Pumps	One natural gas 245 BHP and one electric.	74:36:05:04.01(7)&(8)
IA-11	Food Safety Area	Includes sterile anti-bacterial solution packaging, mixing, blending, and dispensing. Emissions are assumed to be negligible.	74:36:05:04.01(7)&(8)
IA-12	Gel Area	Several non-toxic inorganic solid materials are weighed by hand and then dissolved. Small plastic bags are filled with the mixture and sealed electronically. Gel mixture is also formulated in this area. Miscellaneous powders from both operations are collected in a small Niederman portable dust collector. Air is returned to the room (no outside vent). Emissions are assumed to be negligible.	74:36:05:04.01(7)&(8)
IA-13	Hot Melt Gluers	A non-solvent glue is melted electrically and used to seal the flaps of boxes. Emissions are assumed to be negligible.	74:36:05:04.01(7)&(8)
IA-14	Inkjet Label Printing	Emissions are assumed to be negligible.	74:36:05:04.01(7)&(8)

ID	Insignificant Activity	Basis	SD Admin Rule
IA-15	Paint Spray Booth	The spray booth is used solely for spray paint applications related to plant maintenance in which handheld, non-refillable aerosol containers are used. PTE calculations estimate the painting operation within the spray booth to generate 0.32 ton VOC per year and 0.38 ton PM per year. The spray booth is exempt from 40 CFR 63 subpart MMMM, which regulates coating operations for miscellaneous metal parts and is exempt under 40 CFR 63.3881(c)(2), which states that metal surface coating operations that are part of facility maintenance operations are considered exempt.	74:36:05:04.01(7)&(8)
IA-16	Pellet De-Dusters and Re-pelletizer	The pellet de-dusters are associated with the 24 J Extruder Line. The equipment separates resin dust from resin pellets before the resin pellets go into the extruder. PTE calculations estimate the equipment to generate 0.03 ton PM per year. In the 21J area there is a re-pelletizer with its exhaust returned to the room (no outside vent). Emissions are assumed to be negligible.	74:36:05:04.01(7)&(8)
IA-17	Pro-Pak Area	Semi-finished goods converting area, consists of lasers generating trace amounts of ozone.	74:36:05:04.01(7)&(8)
IA-18	Shipping/Receiving	Finished dry goods are shipped out of the plant. Raw materials are received including paper and packaging supplies. Received liquids are in closed containers and thus no emissions result.	74:36:05:04.01(7)&(8)
IA-19	S-8 and S-10 Area	Medical products are sterilized with an on-site irradiation process. Product is moved in and out of the room via conveyor. The only by-product is a small amount of ozone (approximately 180 pounds per year in the S-8 Area, and 287 pounds per year in the S-10 Area) which is vented to the atmosphere.	74:36:05:04.01(7)&(8)
IA-20	Tape Converting Areas	Large rolls of tape are cut to size and packaged. Emissions are assumed to be negligible.	74:36:05:04.01(7)&(8)
IA-21	Warehouse Areas	Storage of raw materials. Most materials are dry goods and any liquids are stored in 55-gallon drums. There is no liquid dispensing in the warehouse.	74:36:05:04.01(7)&(8)
IA-22	23J Extruder	PTE calculations estimate emissions from the process of extruding resin pellets as less than the two ton per year threshold.	74:36:05:04.01(7)&(8)
IA-23	Tegasorb Mixer & Extruder	Compounding and extruding of a non-solvent product. A maximum of 200 lbs/hr of material extruded and one batch processed every other day.	74:36:05:04.01(7)&(8)
IA-24	CHG Mixer & Extruder	Compounding and extruding with minimal particulate matter and VOC emissions. A maximum of one batch processed per day.	74:36:05:04.01(7)&(8)
IA-25	4K & 6K Batch Mixers	Four (4) 300-gallon capacity mixing tanks used to prepare coating solutions for the 4K and 6K Makers.	74:36:05:04.01(7)&(8)

Section 3.0

Emission Calculations

Unit #4a M Unit #4a M	EU or GP Description soiler #3 A1 Coating Line	CE No.	Pollutant	units/hr	units			1	to Emit (PTE)	to Emit (PTE)	Poll Contr	E 14 (2==)
Unit #3 Bo Unit #4a M Unit #4a M	/11 Coating Line					lb/units		Ref. No.	to Ellilt (PTE)	to Emit (PTE)	Eff (%)	Emit (PTE)
Unit #4a M Unit #4a M	/11 Coating Line			•		-	units		(lb/hr)	(tpy)	` '	(tpy)
Unit #4a M				0.00	mmbtu	0	hr	1	0.00	0.00	0%	0.00
		Unit #4f	VOC	7,620.00	m ²	2,316.65	hr	2	2,316.65	10,146.93	97%	302.17
Unit #4a M	M1 Coating Line	Unit #4f	Acrylamide	7,620.00	m ²	0.32	hr	2	0.32	1.38	97%	0.04
-	M1 Coating Line	Unit #4f	Acrylic Acid	7,620.00	m ²	3.16	hr	2	3.16	13.84	97%	0.41
Unit #4a M	M1 Coating Line	Unit #4f	Benzene	7,620.00	m ²	5.29E-03	hr	2	5.29E-03	0.02	97%	6.90E-04
Unit #4a M	M1 Coating Line	Unit #4f	Ethylbenzene	7,620.00	m ²	3.51E-03	hr	2	3.51E-03	0.02	97%	4.58E-04
Unit #4a M	M1 Coating Line	Unit #4f	Methyl Alcohol	7,620.00	m ²	13.37	hr	2	13.37	58.56	97%	1.74
Unit #4a M	И1 Coating Line	Unit #4f	Kotono	7,620.00	m ²	7.29E-04	hr	2	7.29E-04	3.19E-03	97%	9.50E-05
	И1 Coating Line	Unit #4f	Toluene	7,620.00	m ²	76.49	hr	2	76.49	335.04	97%	9.98
Unit #4a M	И1 Coating Line	Unit #4f	Vinyl Acetate	7,620.00	m ²	1.03	hr	2	1.03	4.53	97%	0.13
Unit #4a M	И1 Coating Line	Unit #4f	Vinyl Chloride	7,620.00	m ²	2.57E-09	hr	2	2.57E-09	1.13E-08	97%	3.35E-10
Unit #4a M	И1 Coating Line	Unit #4f	Xylene	7,620.00	m ²	3.51E-03	hr	2	3.51E-03	0.02	97%	4.58E-04
Unit #4a M	И1 Coating Line	Unit #4f	Total HAP	7,620.00	m ²	94.38	hr	2	94.38	413.40	97%	12.31
Unit #4b M	И2 Coating Line	Unit #4f	VOC	11,220.00	m ²	3,411.13	hr	2	3,411.13	14,940.75	97%	444.92
Unit #4b M	1/2 Coating Line	Unit #4f	Acrylamide	11,220.00	m ²	1.66E-03	hr	2	1.66E-03	7.25E-03	97%	2.16E-04
Unit #4b M	12 Coating Line	Unit #4f	Acrylic Acid	11,220.00	m ²	4.26	hr	2	4.26	18.66	97%	0.56
Unit #4b M	12 Coating Line	Unit #4f	Benzene	11,220.00	m ²	0.36	hr	2	0.36	1.58	97%	0.05
Unit #4b M	/12 Coating Line	Unit #4f	Ethylbenzene	11,220.00	m ²	9.58	hr	2	9.58	41.95	97%	1.25
Unit #4b M	//2 Coating Line	Unit #4f	Hexane	11,220.00	m ²	10.75	hr	2	10.75	47.07	97%	1.40
Unit #4b M	//2 Coating Line	Unit #4f	Toluene	11,220.00	m ²	303.79	hr	2	303.79	1,330.59	97%	39.62
Unit #4b M	//2 Coating Line	Unit #4f	Xylene	11,220.00	m ²	25.91	hr	2	25.91	113.49	97%	3.38
Unit #4b M	Λ2 Coating Line	Unit #4f	Total HAP	11,220.00	m ²	354.64	hr	2	354.64	1,553.34	97%	46.26
Unit #4c M	//3 Coating Line	Unit #4f	VOC	19,800.00	m ²	7,197.40	hr	2	7,197.40	31,524.60	97%	938.77
Unit #4c M	//3 Coating Line	Unit #4f	Acrylic Acid	19,800.00	m ²	51.81	hr	2	51.81	226.94	97%	6.76
Unit #4c M	//3 Coating Line	Unit #4f	Benzene	19,800.00	m ²	1.36	hr	2	1.36	5.95	97%	0.18
Unit #4c M	//3 Coating Line	Unit #4f	Ethylbenzene	19,800.00	m ²	237.19	hr	2	237.19	1,038.88	97%	30.94
Unit #4c M	//3 Coating Line	Unit #4f	Methyl Alcohol	19,800.00	m ²	0.40	hr	2	0.40	1.75	97%	0.05
Unit #4c M	//3 Coating Line	Unit #4f	Styrene	19,800.00	m ²	66.41	hr	2	66.41	290.89	97%	8.66
Unit #4c M	//3 Coating Line	Unit #4f	Toluene	19,800.00	m ²	1258.82	hr	2	1,258.82	5,513.62	97%	164.19
Unit #4c M	//3 Coating Line	Unit #4f	Xylene	19,800.00	m ²	700.28	hr	2	700.28	3,067.24	97%	91.34
Unit #4c M	//3 Coating Line	Unit #4f	Total HAP	19,800.00	m ²	2316.27	hr	2	2,316.27	10,145.26	97%	302.12
Unit #4d M	//4 Coating Line	Unit #4f	VOC	11,880.00	m ²	3,611.79	hr	2	3,611.79	15,819.62	99%	205.66
	//4 Coating Line	Unit #4f	Acrylonitrile	11,880.00	m ²	0.48	hr	2	0.48	2.11	99%	0.03
	//4 Coating Line	Unit #4f	Benzene	11,880.00	m ²	0.93	hr	2	0.93	4.07	99%	0.05
	//4 Coating Line	Unit #4f	Chlorobenzene	11,880.00	m ²	0.06	hr	2	0.06	0.26	99%	3.35E-03
-	//4 Coating Line	Unit #4f	Ethylbenzene	11,880.00	m ²	88.25	hr	2	88.25	386.51	99%	5.02
	74 Coating Line	Unit #4f	Glycol Ethers	11,880.00	m ²	0.03	hr	2	0.03	0.12	99%	1.61E-03
	//4 Coating Line	Unit #4f	Hexane	11,880.00	m ²	0.12	hr	2	0.12	0.54	99%	7.07E-03
	//4 Coating Line	Unit #4f	Methyl Alcohol	11,880.00	m ²	1.09	hr	2	1.09	4.79	99%	0.06
	74 Coating Line	Unit #4f	Toluene	11,880.00	m ²	1760.81	hr	2	1,760.81	7,712.35	99%	100.26
	//4 Coating Line	Unit #4f	Xylene	11,880.00	m ²	338.88	hr	2	338.88	1,484.30	99%	19.30
	74 Coating Line	Unit #4f	Total HAP	11,880.00	m ²	2190.65	hr	2	2,190.65	9,595.05	99%	124.74

FIL CD				Maximu	ım Rate	Em Factor	or Em Rate	(lbs/hr)	Uncontr Potl	Uncontr Potl	D-II Ct	Contr Potl to
EU or GP No.	EU or GP Description	CE No.	Pollutant		units	lb/units	units	1	to Emit (PTE)	to Emit (PTE)	Poll Contr Eff (%)	Emit (PTE)
NO.				units/hr	units	ib/units	units	Ref. No.	(lb/hr)	(tpy)	LII (70)	(tpy)
Unit #4e	M6 Coating Line	Unit #4f	VOC	11,880.00	m ²	6,085.07	hr	2	6,085.07	26,652.62	99%	367.53
Unit #4e	M6 Coating Line	Unit #4f	Acrylic Acid	11,880.00	m ²	2.22	hr	2	2.22	9.71	99%	0.13
Unit #4e	M6 Coating Line	Unit #4f	Methyl Alcohol	11,880.00	m ²	6.94	hr	2	6.94	30.42	99%	0.42
Unit #4e	M6 Coating Line	Unit #4f	Votono	11,880.00	m ²	0.26	hr	2	0.26	1.12	99%	0.02
Unit #4e	M6 Coating Line	Unit #4f	Toluene	11,880.00	m ²	140.45	hr	2	140.45	615.18	99%	8.48
Unit #4e	M6 Coating Line	Unit #4f	Total HAP	11,880.00	m ²	149.87	hr	2	149.87	656.43	99%	9.05
Unit #4f	Regenerative Thermal Oxidizer (Natural Gas)		NOx	32.00	mmbtu	0.10	mmbtu	3	3.14	13.74	0%	13.74
Unit #4f	Regenerative Thermal Oxidizer (Natural Gas)		CO	32.00	mmbtu	0.08	mmbtu	3	2.64	11.54	0%	11.54
Unit #4f	Regenerative Thermal Oxidizer (Natural Gas)		SO2	32.00	mmbtu	5.88E-04	mmbtu	3	0.02	0.08	0%	0.08
Unit #4f	Regenerative Thermal Oxidizer (Natural Gas)		VOC	32.00	mmbtu	5.39E-03	mmbtu	3	0.17	0.76	0%	0.76
Unit #4f	Regenerative Thermal Oxidizer (Natural Gas)		PM	32.00	mmbtu	7.45E-03	mmbtu	3	0.24	1.04	0%	1.04
Unit #4f	Regenerative Thermal Oxidizer (Natural Gas)		PM10	32.00	mmbtu	7.45E-03	mmbtu	3	0.24	1.04	0%	1.04
Unit #4f	Regenerative Thermal Oxidizer (Natural Gas)		PM2.5	32.00	mmbtu	7.45E-03	mmbtu	3	0.24	1.04	0%	1.04
Unit #4f	Regenerative Thermal Oxidizer (Natural Gas)		Lead	32.00	mmbtu	4.90E-07	mmbtu	3	1.57E-05	6.87E-05	0%	6.87E-05
Unit #4f	Regenerative Thermal Oxidizer (Natural Gas)		Arsenic	32.00	mmbtu	1.96E-07	mmbtu	3	6.27E-06	2.75E-05	0%	2.75E-05
Unit #4f	Regenerative Thermal Oxidizer (Natural Gas)		Benzene	32.00	mmbtu	2.06E-06	mmbtu	3	6.59E-05	2.89E-04	0%	2.89E-04
Unit #4f	Regenerative Thermal Oxidizer (Natural Gas)		Beryllium	32.00	mmbtu	1.18E-08	mmbtu	3	3.76E-07	1.65E-06	0%	1.65E-06
Unit #4f	Regenerative Thermal Oxidizer (Natural Gas)		Cadmium	32.00	mmbtu	1.08E-06	mmbtu	3	3.45E-05	1.51E-04	0%	1.51E-04
Unit #4f	Regenerative Thermal Oxidizer (Natural Gas)		Chromium	32.00	mmbtu	1.37E-06	mmbtu	3	4.39E-05	1.92E-04	0%	1.92E-04
Unit #4f	Regenerative Thermal Oxidizer (Natural Gas)		Cobalt	32.00	mmbtu	8.24E-08	mmbtu	3	2.64E-06	1.15E-05	0%	1.15E-05
Unit #4f	Regenerative Thermal Oxidizer (Natural Gas)		Dichlorobenzene	32.00	mmbtu	1.18E-09	mmbtu	3	3.76E-08	1.65E-07	0%	1.65E-07
Unit #4f	Regenerative Thermal Oxidizer (Natural Gas)		Formaldehyde	32.00	mmbtu	7.35E-05	mmbtu	3	2.35E-03	0.01	0%	0.01
Unit #4f	Regenerative Thermal Oxidizer (Natural Gas)		Hexane	32.00	mmbtu	1.76E-03	mmbtu	3	0.06	0.25	0%	0.25
Unit #4f	Regenerative Thermal Oxidizer (Natural Gas)		Manganese	32.00	mmbtu	3.73E-07	mmbtu	3	1.19E-05	5.22E-05	0%	5.22E-05
Unit #4f	Regenerative Thermal Oxidizer (Natural Gas)		Mercury	32.00	mmbtu	2.55E-07	mmbtu	3	8.16E-06	3.57E-05	0%	3.57E-05
Unit #4f	Regenerative Thermal Oxidizer (Natural Gas)		Naphthalene	32.00	mmbtu	6.27E-07	mmbtu	3	2.01E-05	8.79E-05	0%	8.79E-05
Unit #4f	Regenerative Thermal Oxidizer (Natural Gas)		Nickel	32.00	mmbtu	2.06E-06	mmbtu	3	6.59E-05	2.89E-04	0%	2.89E-04
Unit #4f	Regenerative Thermal Oxidizer (Natural Gas)		Selenium	32.00	mmbtu	2.35E-08	mmbtu	3	7.53E-07	3.30E-06	0%	3.30E-06
Unit #4f	Regenerative Thermal Oxidizer (Natural Gas)		Toluene	32.00	mmbtu	3.33E-06	mmbtu	3	1.07E-04	4.67E-04	0%	4.67E-04
Unit #4f	Regenerative Thermal Oxidizer (Natural Gas)		POM	32.00	mmbtu	8.16E-08	mmbtu	3	2.61E-06	1.14E-05	0%	1.14E-05
Unit #4f	Regenerative Thermal Oxidizer (Natural Gas)		Total HAP	32.00	mmbtu	1.85E-03	mmbtu	3	0.06	0.26	0%	0.26
Unit #4f	Regenerative Thermal Oxidizer (Natural Gas)		CO2-e	32.00	mmbtu			4	3,747.78	16,415.28	0%	16.415.28
Unit #4f	Regenerative Thermal Oxidizer (Natural Gas)		CO2	32.00	mmbtu	117.00	mmbtu	5	3,743.91	16,398.34	0%	16,398.34
Unit #4f	Regenerative Thermal Oxidizer (Natural Gas)		CH4	32.00	mmbtu	2.21E-03	mmbtu	5	0.07	0.31	0%	0.31
Unit #4f	Regenerative Thermal Oxidizer (Natural Gas)		N2O	32.00	mmbtu	2.21E-04	mmbtu	5	7.06E-03	0.03	0%	0.03
Unit #7	Mixing Room		VOC	3.00	lbs	3.00	hr	6	3.00	13.14	0%	13.14
Unit #8	Die Cleaning Room		VOC	0.90	lbs	0.90	hr	6	0.90	3.94	0%	3.94
Unit #9a	Una-Dyn PE/PP Resin Pellet Silo (Silo #1)	Donaldson F	PM	2,800.00	lbs	0.73	ton	7	1.02	4.45	100%	4.45E-03
Unit #9a	Una-Dyn PE/PP Resin Pellet Silo (Silo #1)	Donaldson F	PM10	2,800.00	lbs	0.4624	ton	7	0.65	2.84	100%	2.84E-03
Unit #9a	Una-Dyn PE/PP Resin Pellet Silo (Silo #1)	Donaldson F	PM2.5	2,800.00	lbs	0.4624	ton	7	0.65	2.84	100%	2.84E-03
Unit #9b	Una-Dyn PE/PP Resin Pellet Silo (Silo #2)	Donaldson F	PM	2,800.00	lbs	0.73	ton	7	1.02	4.45	100%	4.45E-03
Unit #9b	Una-Dyn PE/PP Resin Pellet Silo (Silo #2)	Donaldson F	PM10	2,800.00	lbs	0.4624	ton	7	0.65	2.84	100%	2.84E-03
Unit #9b	Una-Dyn PE/PP Resin Pellet Silo (Silo #2)	Donaldson F	PM2.5	2,800.00	lbs	0.4624	ton	7	0.65	2.84	100%	2.84E-03

EU or GP				Maxim	um Rate	Em Factor	or Em Rate	(lbs/hr)	Uncontr Potl	Uncontr Potl	Poll Contr	Contr Potl to
No.	EU or GP Description	CE No.	Pollutant	units/hr	units	lb/units	units	Ref. No.	to Emit (PTE)	to Emit (PTE)	Eff (%)	Emit (PTE)
									(lb/hr)	(tpy)	` '	(tpy)
Unit #9c	Una-Dyn PE/PP Resin Pellet Silo (Silo #3)	Donaldson F	PM	2,800.00	lbs	0.73	ton	7	1.02	4.45	100%	4.45E-03
Unit #9c	Una-Dyn PE/PP Resin Pellet Silo (Silo #3)	Donaldson F	PM10	2,800.00	lbs	0.4624	ton	7	0.65	2.84	100%	2.84E-03
Unit #9c	Una-Dyn PE/PP Resin Pellet Silo (Silo #3)	Donaldson F	PM2.5	2,800.00	lbs	0.4624	ton	7	0.65	2.84	100%	2.84E-03
Unit #9d	Una-Dyn PE/PP Resin Pellet Silo (Silo #4)	Donaldson F	PM PM10	2,800.00	lbs	0.73	ton	7	1.02	4.45	100%	4.45E-03
Unit #9d Unit #9d	Una-Dyn PE/PP Resin Pellet Silo (Silo #4) Una-Dyn PE/PP Resin Pellet Silo (Silo #4)	Donaldson F Donaldson F	PM10 PM2.5	2,800.00 2,800.00	lbs lbs	0.4624 0.4624	ton	7	0.65 0.65	2.84	100% 100%	2.84E-03 2.84E-03
Unit #10a		Donaldson F	PM	2,800.00	lbs	0.4624	ton	7	1.02	4.45	100%	4.45E-03
-	PE/PP Resin Pellet Transfer from Silos (#1) to Extruder Area							7				
Unit #10a	PE/PP Resin Pellet Transfer from Silos (#1) to Extruder Area	Donaldson F	PM10	2,800.00	lbs	0.4624	ton		0.65	2.84	100%	2.84E-03
Unit #10a	PE/PP Resin Pellet Transfer from Silos (#1) to Extruder Area	Donaldson F	PM2.5	2,800.00	lbs	0.4624	ton	7	0.65	2.84	100%	2.84E-03
Unit #10b	PE/PP Resin Pellet Transfer from Silos (#2) to Extruder Area	Donaldson F	PM	2,800.00	lbs	0.73	ton	7	1.02	4.45	100%	4.45E-03
Unit #10b	PE/PP Resin Pellet Transfer from Silos (#2) to Extruder Area	Donaldson F	PM10	2,800.00	lbs	0.4624	ton	7	0.65	2.84	100%	2.84E-03
Unit #10b	PE/PP Resin Pellet Transfer from Silos (#2) to Extruder Area	Donaldson F	PM2.5	2,800.00	lbs	0.4624	ton	7	0.65	2.84	100%	2.84E-03
Unit #10c	PE/PP Resin Pellet Transfer from Silos (#3) to Extruder Area	Donaldson F	PM	2,800.00	lbs	0.73	ton	7	1.02	4.45	100%	4.45E-03
Unit #10c	PE/PP Resin Pellet Transfer from Silos (#3) to Extruder Area	Donaldson F	PM10	2,800.00	lbs	0.4624	ton	7	0.65	2.84	100%	2.84E-03
Unit #10c	PE/PP Resin Pellet Transfer from Silos (#3) to Extruder Area	Donaldson F	PM2.5	2,800.00	lbs	0.4624	ton	7	0.65	2.84	100%	2.84E-03
Unit #11a	4K Maker Line Oven #1 (Natural Gas)		NOx	4.50	mmbtu	0	mmbtu	3	0.44	1.93	0%	1.93
Unit #11a	4K Maker Line Oven #1 (Natural Gas)		СО	4.50	mmbtu	0	mmbtu	3	0.37	1.62	0%	1.62
Unit #11a	4K Maker Line Oven #1 (Natural Gas)		SO2	4.50	mmbtu	5.88E-04	mmbtu	3	2.65E-03	0.01	0%	0.01
Unit #11a	4K Maker Line Oven #1 (Natural Gas)		VOC	4.50	mmbtu	5.39E-03	mmbtu	3	0.02	0.11	0%	0.11
Unit #11a	4K Maker Line Oven #1 (Natural Gas)		PM	4.50	mmbtu	7.45E-03	mmbtu	3	0.03	0.15	0%	0.15
Unit #11a	4K Maker Line Oven #1 (Natural Gas)		PM10	4.50	mmbtu	7.45E-03	mmbtu	3	0.03	0.15	0%	0.15
Unit #11a	4K Maker Line Oven #1 (Natural Gas)		PM2.5	4.50	mmbtu	7.45E-03	mmbtu	3	0.03	0.15	0%	0.15
Unit #11a	4K Maker Line Oven #1 (Natural Gas)		Lead	4.50	mmbtu	4.90E-07	mmbtu	3	2.21E-06	9.66E-06	0%	9.66E-06
Unit #11a	4K Maker Line Oven #1 (Natural Gas)		Arsenic	4.50	mmbtu	1.96E-07	mmbtu	3	8.82E-07	3.86E-06	0%	3.86E-06
Unit #11a	4K Maker Line Oven #1 (Natural Gas)		Benzene	4.50	mmbtu	2.06E-06	mmbtu	3	9.26E-06	4.06E-05	0%	4.06E-05
Unit #11a	4K Maker Line Oven #1 (Natural Gas)		Beryllium	4.50	mmbtu	1.18E-08	mmbtu	3	5.29E-08	2.32E-07	0%	2.32E-07
Unit #11a	4K Maker Line Oven #1 (Natural Gas)		Cadmium	4.50	mmbtu	1.08E-06	mmbtu	3	4.85E-06	2.13E-05	0%	2.13E-05
Unit #11a	4K Maker Line Oven #1 (Natural Gas)		Chromium	4.50	mmbtu	1.37E-06	mmbtu	3	6.18E-06	2.71E-05	0%	2.71E-05
Unit #11a	4K Maker Line Oven #1 (Natural Gas)		Cobalt	4.50	mmbtu	8.24E-08	mmbtu	3	3.71E-07	1.62E-06	0%	1.62E-06
Unit #11a	4K Maker Line Oven #1 (Natural Gas)		Dichlorobenzene	4.50	mmbtu	1.18E-09	mmbtu	3	5.29E-09	2.32E-08	0%	2.32E-08
Unit #11a	4K Maker Line Oven #1 (Natural Gas)		Formaldehyde	4.50	mmbtu	7.35E-05	mmbtu	3	3.31E-04	1.45E-03	0%	1.45E-03
Unit #11a	4K Maker Line Oven #1 (Natural Gas)		Hexane	4.50	mmbtu	1.76E-03	mmbtu	3	7.94E-03	0.03	0%	0.03
Unit #11a	4K Maker Line Oven #1 (Natural Gas)		Manganese	4.50	mmbtu	3.73E-07	mmbtu	3	1.68E-06	7.34E-06	0%	7.34E-06
Unit #11a	4K Maker Line Oven #1 (Natural Gas)		Mercury	4.50	mmbtu	2.55E-07	mmbtu	3	1.15E-06	5.02E-06	0%	5.02E-06
Unit #11a	4K Maker Line Oven #1 (Natural Gas)		Naphthalene	4.50	mmbtu	6.27E-07	mmbtu	3	2.82E-06	1.24E-05	0%	1.24E-05
								-				
Unit #11a	4K Maker Line Oven #1 (Natural Gas)		Nickel	4.50	mmbtu	2.06E-06	mmbtu	3	9.26E-06	4.06E-05	0%	4.06E-05
Unit #11a	4K Maker Line Oven #1 (Natural Gas)		Selenium	4.50	mmbtu	2.35E-08	mmbtu	3	1.06E-07	4.64E-07	0%	4.64E-07
Unit #11a	4K Maker Line Oven #1 (Natural Gas)		Toluene	4.50	mmbtu	3.33E-06	mmbtu	3	1.50E-05	6.57E-05	0%	6.57E-05
Unit #11a	4K Maker Line Oven #1 (Natural Gas)		POM	4.50	mmbtu	8.16E-08	mmbtu	3	3.67E-07	1.61E-06	0%	1.61E-06
Unit #11a	4K Maker Line Oven #1 (Natural Gas)		Total HAP	4.50	mmbtu	1.85E-03	mmbtu	3	8.33E-03	0.04	0%	0.04
Unit #11a	4K Maker Line Oven #1 (Natural Gas)		CO2-e	4.50	mmbtu			4	527.03	2,308.40	0%	2,308.40
Unit #11a	4K Maker Line Oven #1 (Natural Gas)		CO2	4.50	mmbtu	117.00	mmbtu	5	526.49	2,306.02	0%	2,306.02
Unit #11a	4K Maker Line Oven #1 (Natural Gas)		CH4	4.50	mmbtu	2.21E-03	mmbtu	5	9.92E-03	0.04	0%	0.04
Unit #11a	4K Maker Line Oven #1 (Natural Gas)		N2O	4.50	mmbtu	2.21E-04	mmbtu	5	9.92E-04	4.35E-03	0%	4.35E-03

FIL CD				Maximi	um Rate	Em Factor	or Em Rate	(lbs/hr)	Uncontr Poti	Uncontr Poti	Dall Carety	Contr Potl to
EU or GP No.	EU or GP Description	CE No.	Pollutant	units/hr	units	lb/units	units	Ref. No.	to Emit (PTE)	to Emit (PTE)	Poll Contr Eff (%)	Emit (PTE)
				-	units	.,	units		(lb/hr)	(tpy)	(,	(tpy)
	4K Maker Line Oven #2 (Natural Gas)		NOx	4.50	mmbtu	0.10	mmbtu	3	0.44	1.93	0%	1.93
Unit #11b	4K Maker Line Oven #2 (Natural Gas)		CO	4.50	mmbtu	0.08	mmbtu	3	0.37	1.62	0%	1.62
	4K Maker Line Oven #2 (Natural Gas)		SO2	4.50	mmbtu	5.88E-04	mmbtu	3	2.65E-03	0.01	0%	0.01
Unit #11b	4K Maker Line Oven #2 (Natural Gas)		VOC	4.50	mmbtu	5.39E-03	mmbtu	3	0.02	0.11	0%	0.11
Unit #11b	4K Maker Line Oven #2 (Natural Gas)		PM	4.50	mmbtu	7.45E-03	mmbtu	3	0.03	0.15	0%	0.15
Unit #11b	4K Maker Line Oven #2 (Natural Gas)		PM10	4.50	mmbtu	7.45E-03	mmbtu	3	0.03	0.15	0%	0.15
	4K Maker Line Oven #2 (Natural Gas)		PM2.5	4.50	mmbtu	7.45E-03	mmbtu	3	0.03	0.15	0%	0.15
Unit #11b	4K Maker Line Oven #2 (Natural Gas)		Lead	4.50	mmbtu	4.90E-07	mmbtu	3	2.21E-06	9.66E-06	0%	9.66E-06
Unit #11b	4K Maker Line Oven #2 (Natural Gas)		Arsenic	4.50	mmbtu	1.96E-07	mmbtu	3	8.82E-07	3.86E-06	0%	3.86E-06
Unit #11b	4K Maker Line Oven #2 (Natural Gas)		Benzene	4.50	mmbtu	2.06E-06	mmbtu	3	9.26E-06	4.06E-05	0%	4.06E-05
Unit #11b	4K Maker Line Oven #2 (Natural Gas)		Beryllium	4.50	mmbtu	1.18E-08	mmbtu	3	5.29E-08	2.32E-07	0%	2.32E-07
Unit #11b	4K Maker Line Oven #2 (Natural Gas)		Cadmium	4.50	mmbtu	1.08E-06	mmbtu	3	4.85E-06	2.13E-05	0%	2.13E-05
Unit #11b	4K Maker Line Oven #2 (Natural Gas)		Chromium	4.50	mmbtu	1.37E-06	mmbtu	3	6.18E-06	2.71E-05	0%	2.71E-05
Unit #11b	4K Maker Line Oven #2 (Natural Gas)		Cobalt	4.50	mmbtu	8.24E-08	mmbtu	3	3.71E-07	1.62E-06	0%	1.62E-06
Unit #11b	4K Maker Line Oven #2 (Natural Gas)		Dichlorobenzene	4.50	mmbtu	1.18E-09	mmbtu	3	5.29E-09	2.32E-08	0%	2.32E-08
Unit #11b	4K Maker Line Oven #2 (Natural Gas)		Formaldehyde	4.50	mmbtu	7.35E-05	mmbtu	3	3.31E-04	1.45E-03	0%	1.45E-03
Unit #11b	4K Maker Line Oven #2 (Natural Gas)		Hexane	4.50	mmbtu	1.76E-03	mmbtu	3	7.94E-03	0.03	0%	0.03
Unit #11b	4K Maker Line Oven #2 (Natural Gas)		Manganese	4.50	mmbtu	3.73E-07	mmbtu	3	1.68E-06	7.34E-06	0%	7.34E-06
Unit #11b	4K Maker Line Oven #2 (Natural Gas)		Mercury	4.50	mmbtu	2.55E-07	mmbtu	3	1.15E-06	5.02E-06	0%	5.02E-06
Unit #11b	4K Maker Line Oven #2 (Natural Gas)		Naphthalene	4.50	mmbtu	6.27E-07	mmbtu	3	2.82E-06	1.24E-05	0%	1.24E-05
Unit #11b	4K Maker Line Oven #2 (Natural Gas)		Nickel	4.50	mmbtu	2.06E-06	mmbtu	3	9.26E-06	4.06E-05	0%	4.06E-05
Unit #11b	4K Maker Line Oven #2 (Natural Gas)		Selenium	4.50	mmbtu	2.35E-08	mmbtu	3	1.06E-07	4.64E-07	0%	4.64E-07
Unit #11b	4K Maker Line Oven #2 (Natural Gas)		Toluene	4.50	mmbtu	3.33E-06	mmbtu	3	1.50E-05	6.57E-05	0%	6.57E-05
Unit #11b	4K Maker Line Oven #2 (Natural Gas)		POM	4.50	mmbtu	8.16E-08	mmbtu	3	3.67E-07	1.61E-06	0%	1.61E-06
Unit #11b	4K Maker Line Oven #2 (Natural Gas)		Total HAP	4.50	mmbtu	1.85E-03	mmbtu	3	8.33E-03	0.04	0%	0.04
Unit #11b	4K Maker Line Oven #2 (Natural Gas)		CO2-e	4.50	mmbtu			4	527.03	2,308.40	0%	2,308.40
Unit #11b	4K Maker Line Oven #2 (Natural Gas)		CO2	4.50	mmbtu	117.00	mmbtu	5	526.49	2,306.02	0%	2,306.02
Unit #11b	4K Maker Line Oven #2 (Natural Gas)		CH4	4.50	mmbtu	2.21E-03	mmbtu	5	9.92E-03	0.04	0%	0.04
Unit #11b	4K Maker Line Oven #2 (Natural Gas)		N2O	4.50	mmbtu	2.21E-04	mmbtu	5	9.92E-04	4.35E-03	0%	4.35E-03
Unit #13a	1735 Film Lab (EtO Sterilization)	EtO Abator	VOC	190.50	grams	0.42	hour	8	0.42	1.84	99%	0.02
Unit #13a	1735 Film Lab (EtO Sterilization)	EtO Abator	Ethylene Oxide	190.50	grams	0.42	hour	8	0.42	1.84	99%	0.02
Unit #13b	1742 Film Lab (EtO Sterilization)		VOC	12.50	grams	0.03	hour	8	0.03	0.12	0%	0.12
Unit #13b	1742 Film Lab (EtO Sterilization)		Ethylene Oxide	12.50	grams	0.03	hour	8	0.03	0.12	0%	0.12
Unit #14a	Tank 12-A-7 (Flammable Adhesives AST)		VOC	318.00	gallons	0.15	hour	9	0.15	0.64	0%	0.64
Unit #14a	Tank 12-A-7 (Flammable Adhesives AST)		Toluene	318.00	gallons	0.00	hour	9	4.36E-03	0.02	0%	0.02
Unit #14a	Tank 12-A-7 (Flammable Adhesives AST)		Xylene	318.00	gallons	0.04	hour	9	0.04	0.16	0%	0.16
Unit #14a Unit #14a	Tank 12-A-7 (Flammable Adhesives AST) Tank 12-A-7 (Flammable Adhesives AST)		Ethylbenzene Total HAP	318.00 318.00	gallons gallons	0.01 0.05	hour hour	9	5.81E-03 0.05	0.03 0.20	0% 0%	0.03 0.20
	Tank 12-A-8 (Flammable Adhesives AST)		VOC	214.20	gallons	0.03	hour	9	0.03	1.26	0%	1.26
Unit #146	Tank 12-A-9 (Flammable Adhesives AST)		VOC	192.00	gallons	0.09	hour	9	0.09	0.37	0%	0.37
Unit #14c	Tank 12-A-9 (Flammable Adhesives AST)		Toluene	192.00	gallons	0.09	hour	9	0.09	0.37	0%	0.37
Unit #14c	Tank 12-A-9 (Flammable Adhesives AST)		Total HAP	192.00	gallons	0.09	hour	9	0.09	0.37	0%	0.37
Unit #140	24J Extrusion Process: Resin		VOC	400.00	lbs	3.00E-04	lb	10	0.09	0.53	0%	0.57
Unit #17	24J Extrusion Process: Adhesive		VOC	434.93	lbs	0.4349315	hr	10	0.43	1.91	0%	1.91
Unit #17	24J Extrusion Process: Solventless Coating		VOC	600.00	lbs	0.3	hr	10	0.30	1.31	0%	1.31
Unit #17	24J Extrusion Process: Solventless Coating		Acrylic Acid	600.00	lbs	3.00E-03	hr	10	3.00E-03	0.01	0%	0.01
Unit #17	24J Extrusion Process: Solventless Coating		Total HAP	600.00	lbs	3.00E-03	hr	10	3.00E-03	0.01	0%	0.01

EU or GP				Maxim	um Rate	Em Factor	or Em Rate	(lbs/hr)	Uncontr Potl	Uncontr Poti	Poll Contr	Contr Potl to
No.	EU or GP Description	CE No.	Pollutant	units/hr	units	lb/units	units	Ref. No.	to Emit (PTE)	to Emit (PTE)	Eff (%)	Emit (PTE)
				-		.,			(lb/hr)	(tpy)	` '	(tpy)
Unit #18	22J Solventless Coater: Resin		VOC	2,100.00	lbs	3.00E-04	lb	10	0.63	2.76	0%	2.76
	22J Solventless Coater: Solventless Coating		VOC	600.00	lbs	0.3	hr	10	0.30	1.31	0%	1.31
	22J Solventless Coater: Solventless Coating		Toluene	600.00	lbs	1.50E-03	hr	10	1.50E-03	6.57E-03	0%	6.57E-03
Unit #18	22J Solventless Coater: Solventless Coating		Total HAP	600.00	lbs	1.50E-03	hr	10	1.50E-03	6.57E-03	0%	6.57E-03
Unit #18	22J Solventless Coater: Flame Treater (Natural Gas)		NOx	0.18	mmbtu	0	mmbtu	3	0.02	0.08	0%	0.08
Unit #18	22J Solventless Coater: Flame Treater (Natural Gas)		CO	0.18	mmbtu	0	mmbtu	3	0.01	0.06	0%	0.06
Unit #18	22J Solventless Coater: Flame Treater (Natural Gas)		SO2	0.18	mmbtu	5.88E-04	mmbtu	3	1.06E-04	4.64E-04	0%	4.64E-04
Unit #18	22J Solventless Coater: Flame Treater (Natural Gas)		VOC	0.18	mmbtu	5.39E-03	mmbtu	3	9.71E-04	4.25E-03	0%	4.25E-03
Unit #18	22J Solventless Coater: Flame Treater (Natural Gas)		PM	0.18	mmbtu	7.45E-03	mmbtu	3	1.34E-03	5.87E-03	0%	5.87E-03
Unit #18	22J Solventless Coater: Flame Treater (Natural Gas)		PM10	0.18	mmbtu	7.45E-03	mmbtu	3	1.34E-03	5.87E-03	0%	5.87E-03
Unit #18	22J Solventless Coater: Flame Treater (Natural Gas)		PM2.5	0.18	mmbtu	7.45E-03	mmbtu	3	1.34E-03	5.87E-03	0%	5.87E-03
Unit #18	22J Solventless Coater: Flame Treater (Natural Gas)		Lead	0.18	mmbtu	4.90E-07	mmbtu	3	8.82E-08	3.86E-07	0%	3.86E-07
Unit #18	22J Solventless Coater: Flame Treater (Natural Gas)		Arsenic	0.18	mmbtu	1.96E-07	mmbtu	3	3.53E-08	1.55E-07	0%	1.55E-07
Unit #18	22J Solventless Coater: Flame Treater (Natural Gas)		Benzene	0.18	mmbtu	2.06E-06	mmbtu	3	3.71E-07	1.62E-06	0%	1.62E-06
Unit #18	22J Solventless Coater: Flame Treater (Natural Gas)		Beryllium	0.18	mmbtu	1.18E-08	mmbtu	3	2.12E-09	9.28E-09	0%	9.28E-09
Unit #18	22J Solventless Coater: Flame Treater (Natural Gas)		Cadmium	0.18	mmbtu	1.08E-06	mmbtu	3	1.94E-07	8.50E-07	0%	8.50E-07
Unit #18	22J Solventless Coater: Flame Treater (Natural Gas)		Chromium	0.18	mmbtu	1.37E-06	mmbtu	3	2.47E-07	1.08E-06	0%	1.08E-06
Unit #18	22J Solventless Coater: Flame Treater (Natural Gas)		Cobalt	0.18	mmbtu	8.24E-08	mmbtu	3	1.48E-08	6.49E-08	0%	6.49E-08
Unit #18	22J Solventless Coater: Flame Treater (Natural Gas)		Dichlorobenzene	0.18	mmbtu	1.18E-09	mmbtu	3	2.12E-10	9.28E-10	0%	9.28E-10
Unit #18	22J Solventless Coater: Flame Treater (Natural Gas)		Formaldehyde	0.18	mmbtu	7.35E-05	mmbtu	3	1.32E-05	5.80E-05	0%	5.80E-05
Unit #18	22J Solventless Coater: Flame Treater (Natural Gas)		Hexane	0.18	mmbtu	1.76E-03	mmbtu	3	3.18E-04	1.39E-03	0%	1.39E-03
Unit #18	22J Solventless Coater: Flame Treater (Natural Gas)		Manganese	0.18	mmbtu	3.73E-07	mmbtu	3	6.71E-08	2.94E-07	0%	2.94E-07
Unit #18	22J Solventless Coater: Flame Treater (Natural Gas)		Mercury	0.18	mmbtu	2.55E-07	mmbtu	3	4.59E-08	2.01E-07	0%	2.01E-07
Unit #18	22J Solventless Coater: Flame Treater (Natural Gas)		Naphthalene	0.18	mmbtu	6.27E-07	mmbtu	3	1.13E-07	4.95E-07	0%	4.95E-07
Unit #18	22J Solventless Coater: Flame Treater (Natural Gas)		Nickel	0.18	mmbtu	2.06E-06	mmbtu	3	3.71E-07	1.62E-06	0%	1.62E-06
Unit #18	22J Solventless Coater: Flame Treater (Natural Gas)		Selenium	0.18	mmbtu	2.35E-08	mmbtu	3	4.24E-09	1.86E-08	0%	1.86E-08
Unit #18	22J Solventless Coater: Flame Treater (Natural Gas)		Toluene	0.18	mmbtu	3.33E-06	mmbtu	3	6.00E-07	2.63E-06	0%	2.63E-06
Unit #18	22J Solventless Coater: Flame Treater (Natural Gas)		POM	0.18	mmbtu	8.16E-08	mmbtu	3	1.47E-08	6.43E-08	0%	6.43E-08
Unit #18	22J Solventless Coater: Flame Treater (Natural Gas)		Total HAP	0.18	mmbtu	1.85E-03	mmbtu	3	3.33E-04	1.46E-03	0%	1.46E-03
Unit #18	22J Solventless Coater: Flame Treater (Natural Gas)		CO2-e	0.18	mmbtu			4	21.08	92.34	0%	92.34
Unit #18	22J Solventless Coater: Flame Treater (Natural Gas)		CO2	0.18	mmbtu	117.00	mmbtu	5	21.06	92.24	0%	92.24
Unit #18	22J Solventless Coater: Flame Treater (Natural Gas)		CH4	0.18	mmbtu	2.21E-03	mmbtu	5	3.97E-04	1.74E-03	0%	1.74E-03
Unit #18	22J Solventless Coater: Flame Treater (Natural Gas)		N2O	0.18	mmbtu	2.21E-04	mmbtu	5	3.97E-05	1.74E-04	0%	1.74E-04
Unit #19	21J Extrusion Process		VOC	1,995.00	nollete	3.00E-04	lb	10	0.60	2.62	0%	2.62
Unit #20	4K Maker Line		VOC	1.29	lbs	1.29	lb	11	1.29	5.65	0%	5.65
Unit #21	5K Maker Line		VOC	0.09	lb	0.09	lb	11	0.09	0.37	0%	0.37
Unit #22	6K Maker Line		VOC	0.31	lb	0.31	lb	11	0.31	1.34	0%	1.34
Unit #22	6K Maker Line		lethyl Isobutyl Ketor	0.31	lb	0.03	lb	11	0.03	0.15	0%	0.15
Unit #22	6K Maker Line		Total HAP	0.31	lb	0.03	lb	11	0.03	0.15	0%	0.15
Unit #24	Three Industrial Cooling Towers		PM	510,000	1,000 gal	0.35	lb	12	0.35	1.52	0%	1.52
Unit #24	Three Industrial Cooling Towers		PM10	510,000	1,000 gal	0.35	lb	12	0.35	1.52	0%	1.52
Unit #24	Three Industrial Cooling Towers		PM2.5	510,000	1,000 gal	0.35	lb	12	0.35	1.52	0%	1.52

EU or GP				Maximu	ım Rate	Em Factor	or Em Rate	(lbs/hr)	Uncontr Potl	Uncontr Potl	Poll Contr	Contr Potl to
No.	EU or GP Description	CE No.	Pollutant	units/hr	units	lb/units	units	Ref. No.	to Emit (PTE)		Eff (%)	Emit (PTE)
									(lb/hr)	(tpy)	` '	(tpy)
Unit #25	Diesel Generator #2 (diesel)		NOx	4.45	mmbtu	4.41	mmbtu	13	19.60	85.86	0%	85.86
Unit #25	Diesel Generator #2 (diesel)		СО	4.45	mmbtu	0.95	mmbtu	13	4.22	18.50	0%	18.50
Unit #25	Diesel Generator #2 (diesel)		SO2	4.45	mmbtu	0.29	mmbtu	13	1.29	5.65	0%	5.65
Unit #25	Diesel Generator #2 (diesel)		VOC	4.45	mmbtu	0.35	mmbtu	13	1.56	6.81	0%	6.81
Unit #25	Diesel Generator #2 (diesel)		PM	4.45	mmbtu	0.31	mmbtu	13	1.38	6.04	0%	6.04
Unit #25	Diesel Generator #2 (diesel)		PM10	4.45	mmbtu	0.31	mmbtu	13	1.38	6.04	0%	6.04
Unit #25	Diesel Generator #2 (diesel)		PM2.5	4.45	mmbtu	0.31	mmbtu	13	1.38	6.04	0%	6.04
Unit #25	Diesel Generator #2 (diesel)		Benzene	4.45	mmbtu	9.33E-04	mmbtu	13	4.15E-03	0.02	0%	0.02
Unit #25	Diesel Generator #2 (diesel)		Toluene	4.45	mmbtu	4.09E-04	mmbtu	13	1.82E-03	7.96E-03	0%	7.96E-03
Unit #25	Diesel Generator #2 (diesel)		Xylene	4.45	mmbtu	2.85E-04	mmbtu	13	1.27E-03	5.55E-03	0%	5.55E-03
Unit #25	Diesel Generator #2 (diesel)		1,3-butadiene	4.45	mmbtu	3.91E-05	mmbtu	13	1.74E-04	7.61E-04	0%	7.61E-04
Unit #25	Diesel Generator #2 (diesel)		Formaldehyde	4.45	mmbtu	1.18E-03	mmbtu	13	5.25E-03	0.02	0%	0.02
Unit #25	Diesel Generator #2 (diesel)		Acetaldehyde	4.45	mmbtu	7.67E-04	mmbtu	13	3.41E-03	0.01	0%	0.01
Unit #25	Diesel Generator #2 (diesel)		Acrolein	4.45	mmbtu	9.25E-05	mmbtu	13	4.11E-04	1.80E-03	0%	1.80E-03
Unit #25	Diesel Generator #2 (diesel)		Naphthalene	4.45	mmbtu	8.48E-05	mmbtu	13	3.77E-04	1.65E-03	0%	1.65E-03
Unit #25	Diesel Generator #2 (diesel)		Total HAP	4.45	mmbtu	3.79E-03	mmbtu	13	0.02	0.07	0%	0.07
Unit #25	Diesel Generator #2 (diesel)		CO2-e	4.45	mmbtu			4	731.47	3,203.83	0%	3,203.83
Unit #25	Diesel Generator #2 (diesel)		CO2	4.45	mmbtu	164.00	mmbtu	5	728.98	3,192.93	0%	3,192.93
Unit #25	Diesel Generator #2 (diesel)		CH4	4.45	mmbtu	6.62E-03	mmbtu	5	0.03	0.13	0%	0.13
Unit #25	Diesel Generator #2 (diesel)		N2O	4.45	mmbtu	1.32E-03	mmbtu	5	5.88E-03	0.03	0%	0.03
Unit #27	Diesel Generator #1 (distillate oil)		NOx	4.11	mmbtu	4.41	mmbtu	13	18.12	79.37	0%	79.37
Unit #27	Diesel Generator #1 (distillate oil)		СО	4.11	mmbtu	0.95	mmbtu	13	3.90	17.10	0%	17.10
Unit #27	Diesel Generator #1 (distillate oil)		SO2	4.11	mmbtu	0.29	mmbtu	13	1.19	5.22	0%	5.22
Unit #27	Diesel Generator #1 (distillate oil)		VOC	4.11	mmbtu	0.35	mmbtu	13	1.44	6.30	0%	6.30
Unit #27	Diesel Generator #1 (distillate oil)		PM	4.11	mmbtu	0.31	mmbtu	13	1.27	5.58	0%	5.58
Unit #27	Diesel Generator #1 (distillate oil)		PM10	4.11	mmbtu	0.31	mmbtu	13	1.27	5.58	0%	5.58
Unit #27	Diesel Generator #1 (distillate oil)		PM2.5	4.11	mmbtu	0.31	mmbtu	13	1.27	5.58	0%	5.58
Unit #27	Diesel Generator #1 (distillate oil)		Benzene	4.11	mmbtu	9.33E-04	mmbtu	13	3.83E-03	0.02	0%	0.02
Unit #27	Diesel Generator #1 (distillate oil)		Toluene	4.11	mmbtu	4.09E-04	mmbtu	13	1.68E-03	7.36E-03	0%	7.36E-03
Unit #27	Diesel Generator #1 (distillate oil)		Xylene	4.11	mmbtu	2.85E-04	mmbtu	13	1.17E-03	5.13E-03	0%	5.13E-03
Unit #27	Diesel Generator #1 (distillate oil)		1,3-butadiene	4.11	mmbtu	3.91E-05	mmbtu	13	1.61E-04	7.04E-04	0%	7.04E-04
Unit #27	Diesel Generator #1 (distillate oil)		Formaldehyde	4.11	mmbtu	1.18E-03	mmbtu	13	4.85E-03	0.02	0%	0.02
Unit #27	Diesel Generator #1 (distillate oil)		Acetaldehyde	4.11	mmbtu	7.67E-04	mmbtu	13	3.15E-03	0.01	0%	0.01
Unit #27	Diesel Generator #1 (distillate oil)		Acrolein	4.11	mmbtu	9.25E-05	mmbtu	13	3.80E-04	1.66E-03	0%	1.66E-03
Unit #27	Diesel Generator #1 (distillate oil)		Naphthalene	4.11	mmbtu	8.48E-05	mmbtu	13	3.48E-04	1.53E-03	0%	1.53E-03
Unit #27	Diesel Generator #1 (distillate oil)		Total HAP	4.11	mmbtu	3.79E-03	mmbtu	13	0.02	0.07	0%	0.07
Unit #27	Diesel Generator #1 (distillate oil)		CO2-e	4.11	mmbtu			4	676.18	2,961.65	0%	2,961.65
Unit #27	Diesel Generator #1 (distillate oil)		CO2	4.11	mmbtu	164.00	mmbtu	5	673.88	2,951.58	0%	2,951.58
Unit #27	Diesel Generator #1 (distillate oil)		CH4	4.11	mmbtu	6.62E-03	mmbtu	5	0.03	0.12	0%	0.12
Unit #27	Diesel Generator #1 (distillate oil)		N2O	4.11	mmbtu	1.32E-03	mmbtu	5	5.44E-03	0.02	0%	0.02

EU or GP				Maxim	um Rate	Em Factor	or Em Rate	e (lbs/hr)	Uncontr Poti	Uncontr Poti	Poll Contr	Contr Potl to
No.	EU or GP Description	CE No.	Pollutant	units/hr	units	lb/units	units	Ref. No.	to Emit (PTE) (lb/hr)	to Emit (PTE) (tpy)	Eff (%)	Emit (PTE) (tpy)
Unit #28	Boiler #4 (natural gas)		NOx	33.50	mmbtu	0	mmbtu	3	3.28	14.39	0%	14.39
Unit #28	Boiler #4 (natural gas)		со	33.50	mmbtu	0	mmbtu	3	2.76	12.08	0%	12.08
Unit #28	Boiler #4 (natural gas)		SO2	33.50	mmbtu	5.88E-04	mmbtu	3	0.02	0.09	0%	0.09
Unit #28	Boiler #4 (natural gas)		VOC	33.50	mmbtu	5.39E-03	mmbtu	3	0.18	0.79	0%	0.79
Unit #28	Boiler #4 (natural gas)		PM	33.50	mmbtu	7.45E-03	mmbtu	3	0.25	1.09	0%	1.09
Unit #28	Boiler #4 (natural gas)		PM10	33.50	mmbtu	7.45E-03	mmbtu	3	0.25	1.09	0%	1.09
Unit #28	Boiler #4 (natural gas)		PM2.5	33.50	mmbtu	7.45E-03	mmbtu	3	0.25	1.09	0%	1.09
Unit #28	Boiler #4 (natural gas)		Lead	33.50	mmbtu	4.90E-07	mmbtu	3	1.64E-05	7.19E-05	0%	7.19E-05
Unit #28	Boiler #4 (natural gas)		Arsenic	33.50	mmbtu	1.96E-07	mmbtu	3	6.57E-06	2.88E-05	0%	2.88E-05
Unit #28	Boiler #4 (natural gas)		Benzene	33.50	mmbtu	2.06E-06	mmbtu	3	6.90E-05	3.02E-04	0%	3.02E-04
Unit #28	Boiler #4 (natural gas)		Beryllium	33.50	mmbtu	1.18E-08	mmbtu	3	3.94E-07	1.73E-06	0%	1.73E-06
Unit #28	Boiler #4 (natural gas)		Cadmium	33.50	mmbtu	1.08E-06	mmbtu	3	3.61E-05	1.58E-04	0%	1.58E-04
Unit #28	Boiler #4 (natural gas)		Chromium	33.50	mmbtu	1.37E-06	mmbtu	3	4.60E-05	2.01E-04	0%	2.01E-04
Unit #28	Boiler #4 (natural gas)		Cobalt	33.50	mmbtu	8.24E-08	mmbtu	3	2.76E-06	1.21E-05	0%	1.21E-05
Unit #28	Boiler #4 (natural gas)		Dichlorobenzene	33.50	mmbtu	1.18E-09	mmbtu	3	3.94E-08	1.73E-07	0%	1.73E-07
Unit #28	Boiler #4 (natural gas)		Formaldehyde	33.50	mmbtu	7.35E-05	mmbtu	3	2.46E-03	0.01	0%	0.01
Unit #28	Boiler #4 (natural gas)		Hexane	33.50	mmbtu	1.76E-03	mmbtu	3	0.06	0.26	0%	0.26
Unit #28	Boiler #4 (natural gas)		Manganese	33.50	mmbtu	3.73E-07	mmbtu	3	1.25E-05	5.47E-05	0%	5.47E-05
Unit #28	Boiler #4 (natural gas)		Mercury	33.50	mmbtu	2.55E-07	mmbtu	3	8.54E-06	3.74E-05	0%	3.74E-05
Unit #28	Boiler #4 (natural gas)		Naphthalene	33.50	mmbtu	6.27E-07	mmbtu	3	2.10E-05	9.21E-05	0%	9.21E-05
Unit #28	Boiler #4 (natural gas)		Nickel	33.50	mmbtu	2.06E-06	mmbtu	3	6.90E-05	3.02E-04	0%	3.02E-04
Unit #28	Boiler #4 (natural gas)		Selenium	33.50	mmbtu	2.35E-08	mmbtu	3	7.88E-07	3.45E-06	0%	3.45E-06
Unit #28	Boiler #4 (natural gas)		Toluene	33.50	mmbtu	3.33E-06	mmbtu	3	1.12E-04	4.89E-04	0%	4.89E-04
Unit #28	Boiler #4 (natural gas)		POM	33.50	mmbtu	8.16E-08	mmbtu	3	2.73E-06	1.20E-05	0%	1.20E-05
Unit #28	Boiler #4 (natural gas)		Total HAP	33.50	mmbtu	1.85E-03	mmbtu	3	0.06	0.27	0%	0.27
Unit #28	Boiler #4 (natural gas)		CO2-e	33.50	mmbtu			4	3,923.46	17,184.74	0%	17,184.74
Unit #28	Boiler #4 (natural gas)		CO2	33.50	mmbtu	117.00	mmbtu	5	3,919.41	17,167.01	0%	17,167.01
Unit #28	Boiler #4 (natural gas)		CH4	33.50	mmbtu	2.21E-03	mmbtu	5	0.07	0.32	0%	0.32
Unit #28	Boiler #4 (natural gas)		N2O	33.50	mmbtu	2.21E-03 2.21E-04	mmbtu	5	7.39E-03	0.03	0%	0.03
Unit #29	Boiler #5 (natural gas)		NOx	33.50	mmbtu	0	mmbtu	3	3.28	14.39	0%	14.39
Unit #29	Boiler #5 (natural gas)		CO	33.50	mmbtu	0	mmbtu	3	2.76	12.08	0%	12.08
Unit #29	Boiler #5 (natural gas)		SO2	33.50	mmbtu	5.88E-04	mmbtu	3	0.02	0.09	0%	0.09
Unit #29	Boiler #5 (natural gas)		VOC	33.50	mmbtu	5.39E-03	mmbtu	3	0.18	0.79	0%	0.79
Unit #29	Boiler #5 (natural gas)		PM	33.50	mmbtu	7.45E-03	mmbtu	3	0.25	1.09	0%	1.09
Unit #29	Boiler #5 (natural gas)		PM10	33.50	mmbtu	7.45E-03	mmbtu	3	0.25	1.09	0%	1.09
Unit #29	Boiler #5 (natural gas)		PM2.5	33.50	mmbtu	7.45E-03	mmbtu	3	0.25	1.09	0%	1.09
Unit #29	Boiler #5 (natural gas)		Lead	33.50	mmbtu	4.90E-07	mmbtu	3	1.64E-05	7.19E-05	0%	7.19E-05
Unit #29	Boiler #5 (natural gas)		Arsenic	33.50	mmbtu	1.96E-07	mmbtu	3	6.57E-06	2.88E-05	0%	2.88E-05
Unit #29	Boiler #5 (natural gas)		Benzene	33.50	mmbtu	2.06E-06	mmbtu	3	6.90E-05	3.02E-04	0%	3.02E-04
Unit #29	Boiler #5 (natural gas)		Beryllium	33.50	mmbtu	1.18E-08	mmbtu	3	3.94E-07	1.73E-06	0%	1.73E-06
Unit #29	Boiler #5 (natural gas)		Cadmium	33.50	mmbtu	1.08E-06	mmbtu	3	3.61E-05	1.58E-04	0%	1.58E-04
Unit #29	Boiler #5 (natural gas)		Chromium	33.50	mmbtu	1.37E-06	mmbtu	3	4.60E-05	2.01E-04	0%	2.01E-04
Unit #29	Boiler #5 (natural gas)		Cobalt	33.50	mmbtu	8.24E-08	mmbtu	3	2.76E-06	1.21E-05	0%	1.21E-05
Unit #29	Boiler #5 (natural gas)		Dichlorobenzene	33.50	mmbtu	1.18E-09	mmbtu	3	3.94E-08	1.73E-07	0%	1.73E-07
Unit #29	Boiler #5 (natural gas)		Formaldehyde	33.50	mmbtu	7.35E-05	mmbtu	3	2.46E-03	0.01	0%	0.01
Unit #29	Boiler #5 (natural gas)		Hexane	33.50	mmbtu	1.76E-03	mmbtu	3	0.06	0.26	0%	0.26
Unit #29	Boiler #5 (natural gas)		Manganese	33.50	mmbtu	3.73E-07	mmbtu	3	1.25E-05	5.47E-05	0%	5.47E-05
J 112J		l .	aguilese	33.30		3.732 07			1.252 05	J , L 0J	570	5 , L 05

FIL ex CD	GP.			Maxim	um Rate	Em Factor or Em Rate		(lbs/hr)	Uncontr Potl	Uncontr Poti	Dell Cantu	Contr Potl to
EU or GP No.	EU or GP Description	CE No.	Pollutant			lle /iee		Def No	to Emit (PTE)	to Emit (PTE)	Poll Contr Eff (%)	Emit (PTE)
IVO.				units/hr	units	lb/units	units	Ref. No.	(lb/hr)	(tpy)	E11 (70)	(tpy)
Unit #29	Boiler #5 (natural gas)		Mercury	33.50	mmbtu	2.55E-07	mmbtu	3	8.54E-06	3.74E-05	0%	3.74E-05
Unit #29	Boiler #5 (natural gas)		Naphthalene	33.50	mmbtu	6.27E-07	mmbtu	3	2.10E-05	9.21E-05	0%	9.21E-05
Unit #29	Boiler #5 (natural gas)		Nickel	33.50	mmbtu	2.06E-06	mmbtu	3	6.90E-05	3.02E-04	0%	3.02E-04
Unit #29	Boiler #5 (natural gas)		Selenium	33.50	mmbtu	2.35E-08	mmbtu	3	7.88E-07	3.45E-06	0%	3.45E-06
Unit #29	Boiler #5 (natural gas)		Toluene	33.50	mmbtu	3.33E-06	mmbtu	3	1.12E-04	4.89E-04	0%	4.89E-04
Unit #29	Boiler #5 (natural gas)		POM	33.50	mmbtu	8.16E-08	mmbtu	3	2.73E-06	1.20E-05	0%	1.20E-05
Unit #29	Boiler #5 (natural gas)		Total HAP	33.50	mmbtu	1.85E-03	mmbtu	3	0.06	0.27	0%	0.27
Unit #29	Boiler #5 (natural gas)		CO2-e	33.50	mmbtu			4	3,923.46	17,184.74	0%	17,184.74
Unit #29	Boiler #5 (natural gas)		CO2	33.50	mmbtu	117.00	mmbtu	5	3,919.41	17,167.01	0%	17,167.01
Unit #29	Boiler #5 (natural gas)		CH4	33.50	mmbtu	2.21E-03	mmbtu	5	0.07	0.32	0%	0.32
Unit #29	Boiler #5 (natural gas)		N2O	33.50	mmbtu	2.21E-04	mmbtu	5	7.39E-03	0.03	0%	0.03
Unit #31	Generator #3 (diesel)		NOx	3.22	mmbtu	4.41	mmbtu	13	14.20	62.20	0%	62.20
Unit #31	Generator #3 (diesel)		со	3.22	mmbtu	0.95	mmbtu	13	3.06	13.40	0%	13.40
Unit #31	Generator #3 (diesel)		SO2	3.22	mmbtu	0.29	mmbtu	13	0.93	4.09	0%	4.09
Unit #31	Generator #3 (diesel)		VOC	3.22	mmbtu	0.35	mmbtu	13	1.13	4.94	0%	4.94
Unit #31	Generator #3 (diesel)		PM	3.22	mmbtu	0.31	mmbtu	13	1.00	4.37	0%	4.37
Unit #31	Generator #3 (diesel)		PM10	3.22	mmbtu	0.31	mmbtu	13	1.00	4.37	0%	4.37
Unit #31	Generator #3 (diesel)		PM2.5	3.22	mmbtu	0.31	mmbtu	13	1.00	4.37	0%	4.37
Unit #31	Generator #3 (diesel)		Benzene	3.22	mmbtu	9.33E-04	mmbtu	13	3.00E-03	0.01	0%	0.01
Unit #31	Generator #3 (diesel)		Toluene	3.22	mmbtu	4.09E-04	mmbtu	13	1.32E-03	5.77E-03	0%	5.77E-03
Unit #31	Generator #3 (diesel)		Xylene	3.22	mmbtu	2.85E-04	mmbtu	13	9.18E-04	4.02E-03	0%	4.02E-03
Unit #31	Generator #3 (diesel)		1,3-butadiene	3.22	mmbtu	3.91E-05	mmbtu	13	1.26E-04	5.51E-04	0%	5.51E-04
Unit #31	Generator #3 (diesel)		Formaldehyde	3.22	mmbtu	1.18E-03	mmbtu	13	3.80E-03	0.02	0%	0.02
Unit #31	Generator #3 (diesel)		Acetaldehyde	3.22	mmbtu	7.67E-04	mmbtu	13	2.47E-03	0.01	0%	0.01
Unit #31	Generator #3 (diesel)		Acrolein	3.22	mmbtu	9.25E-05	mmbtu	13	2.98E-04	1.30E-03	0%	1.30E-03
Unit #31	Generator #3 (diesel)		Naphthalene	3.22	mmbtu	8.48E-05	mmbtu	13	2.73E-04	1.20E-03	0%	1.20E-03
Unit #31	Generator #3 (diesel)		Total HAP	3.22	mmbtu	3.79E-03	mmbtu	13	0.01	0.05	0%	0.05
Unit #31	Generator #3 (diesel)		CO2-e	3.22	mmbtu			4	529.88	2,320.88	0%	2,320.88
Unit #31	Generator #3 (diesel)		CO2	3.22	mmbtu	164.00	mmbtu	5	528.08	2,312.99	0%	2,312.99
Unit #31	Generator #3 (diesel)		CH4	3.22	mmbtu	6.62E-03	mmbtu	5	0.02	0.09	0%	0.09
Unit #31	Generator #3 (diesel)		N2O	3.22	mmbtu	1.32E-03	mmbtu	5	4.26E-03	0.02	0%	0.02
Unit #32	21J Extrusion Process: Corona Treater		VOC	10.00	kW	0.072	kWh	14	0.72	3.15	0%	3.15
Unit #33	Corona Treater on M1 Coating Line		VOC	10.00	kW	0.072	kWh	14	0.72	3.15	0%	3.15
Unit #34	ECG Line		None					15	0.00E+00	0.00E+00	0%	0.00E+00
Unit #35	Attest Coater		None					15	0.00E+00	0.00E+00	0%	0.00E+00
Unit #36	Corona Treater on M2 Coating Line		VOC	10.00	kW	0.072	kWh	14	0.72	3.15	0%	3.15

EU or GP No. EU or GP Description Total Emissions	CE No.	NOx CO SO2	units/hr	um Rate units	lb/units	or Em Rate units	Ref. No.	to Emit (PTE) (lb/hr)	to Emit (PTE) (tpv)	Poll Contr Eff (%)	Emit (PTE)
Total	L	СО	umesym	units	io, aines	units	iten ito.	(lh/hr)	/A\		
		СО		I				(10/111)	(tpy)		(tpy)
		СО							1		
								62.53	273.88		273.88
Emissions		SO2						20.09	88.01		88.01
								3.48	15.23		15.23
		PM						11.91	52.16		21.06
		PM10						9.33	40.88		21.05
		PM2.5			1			9.33	40.88		21.05
					-		-				
		VOC						22,637.83	99,153.69		2,326.39
		CO2-e						14,607.36	63,980.26		63,980.26
		CO2						14,587.70	63,894.14		63,894.14
		CH4						0.32	1.39		1.39
		N2O						0.04	0.17		0.17
		Total HAP						5,106.23	22,365.31		496.29
		1,3-butadiene						4.60E-04	2.02E-03		2.02E-03
		Acetaldehyde						9.03E-03	0.04		0.04
		Acrolein						1.09E-03	4.77E-03		4.77E-03
		Acrylamide						0.32	1.39		0.04
		Acrylic Acid						61.45	269.16		7.87
		Acrylonitrile					1	0.48	2.11		0.03
		Arsenic			1			2.12E-05	9.29E-05		9.29E-05
		Benzene						2.66	11.67		0.33
		Beryllium						1.27E-06	5.57E-06		5.57E-06
		Cadmium					-	1.17E-04	5.11E-04		5.11E-04
		Chromium			-		-	0.06 1.48E-04	0.26 6.50E-04		3.35E-03 6.50E-04
		Chromium Cobalt			-			8.91E-06	3.90E-05		3.90E-05
		Dichlorobenzene			1			1.27E-07	5.57E-07		5.57E-07
		Ethylbenzene						335.02	1,467.38		37.24
		Ethylene Oxide						0.45	1.96		0.14
		Formaldehyde					t	0.02	0.10		0.10
		Glycol Ethers					1	0.03	0.12		1.61E-03
		Hexane						11.06	48.45		2.24
		Lead						5.30E-05	2.32E-04		2.32E-04
		Manganese						4.03E-05	1.77E-04		1.77E-04
		Mercury						2.76E-05	1.21E-04		1.21E-04
		Methyl Alcohol						21.81	95.51		2.28
		Methyl Isobutyl						0.29	1.27		0.16
		Ketone									
		Naphthalene			1		1	1.07E-03	4.67E-03		4.67E-03
		Nickel						2.23E-04	9.76E-04		9.76E-04
		POM						8.82E-06	3.86E-05		3.86E-05
		Selenium	-	-	1		+	2.55E-06	1.11E-05		1.11E-05
		Styrene	-	-	1		+	66.41	290.89		8.66
		Toluene Vinyl Acetate			<u> </u>		 	3,540.45 1.03	15,507.19		322.96 0.13
		Vinyl Acetate Vinyl Chloride			 		+	2.57E-09	4.53 1.13E-08		3.35E-10
		Xylene			1		+	1,065.12	4,665.23		3.35E-10 114.19

Emission Calculation References and Sample Calculations:

- 1. Heat for Boiler #3 is provided by the regenerative thermal oxidizer; no emissions.
- 2. Coating Lines M1, M2, M3, M4, M6

MAXIMUM DESIGN CAPACITY BY COATING LINE:

	M1	M2	M3	M4	M6
Coating weight (mg/200 cm ²)	920	920	1100	920	1550
Web throughput (m²/min)	127	187	330	198	198
Solution % solids	0.25	0.25	0.25	0.25	0.25
Solution specific gravity	0.78	0.78	0.78	0.78	0.78
Solution % VOC	0.75	0.75	0.75	0.75	0.75
Capture Efficiency	98.3%	98.3%	98.3%	100.0%	99.9%
Destruction Efficiency	98.7%	98.7%	98.7%	98.7%	98.7%
Stack Test Date	10/25-26/2005				8/8/2008

SAMPLE CALCULATION (M1)

Assumptions:

(Finished) Coat weight = 920 mg/200 cm²
Web throughput = 127 m²/min

Solution % solids 25% Solution specific gravity 0.78

Solution % VOC 75% Engineering estimate

Coating Thickness:

920 mg/200 cm 2 ÷ 0.78 g/cm 3 ÷ 1000 mg/g ÷ 30.48 cm/ft * 1 g solution/0.25 g solids = 7.74E-04 ft Solution Flow Rate:

7.74E-04 ft solution applied * 127 m 2 /min * 10.764 ft 2 /m 2 = 1.06 ft 3 /min VOC PTE:

 $1.06 \text{ ft}^3/\text{min} * 0.78 * 8.34 \text{ lb/gal} * 7.48 \text{ gal/ft}^3 * 60 \text{ min/hr} * 75\% \text{ VOC} = 2,316.65 \text{ lb VOC/hr}$

HAP emissions estimated by indexing two years of HAP emissions to VOC emissions

- 3. EPA AP-42, Table 1.4-1 for Small Boilers (<100 mmbtu/hr), July 1998. Emission factors converted from lbs/MMscf to lbs/MMBtu based on a heating value of 1,020 Btu/scf.
- 4. CO2-e is calculated as the sum of its consituent emissions, including incorporation of their respective global warming potentials. CO2 (GWP=1); CH4 (GWP=25); N2O (GWP=298); see 40 CFR 98 Table A-1
- 5. CO2-e constituent emission factors and calculation methodologies are from 40 CFR 98 Tables C-1 and C-2

6. Average exhausts from mixing and die cleaning rooms are 2.0 lb/hr and 0.6 lb/hr of VOC, respectively, based on 9/17/03 stack test results. Added 50% safety factor to account for variability in operations.

7. Resin Silos (4) and Resin Transfer

Maximum design capacity: 2,800 lb/hr (1.4 tons/hr) transfer from each silo to process area. Emission factors for polypropylene and polyethylene material handling are not available. Therefore, used emission factors for cement unloading as a conservative estimate, as cement incorporates the use of very fine materials, which contribute to greater potential particulate emissions. The resin pellets used at 3M Brookings are approximately 3/8" in diameter. Emission factors for cement unloading are from AP-42 Chapter 11.12, "Concrete Batching" (06/06). PM2.5 assumed equal to PM10.

Each silo is controlled with a set of filters with 99.9% collection efficiency each. Resin transfer is controlled with 3 sets of filters with 99.9% collection efficiency each.

8. 1735 and 1742 Film Labs (Sterilization)

Maximum design capacity (1735 Lab): There are 6 cabinets and 6 aerators. Each cycle takes 14 hrs (4 hrs sterilized, 10 hrs aerated), and uses one (1) 127g canister. 1735 Lab is controlled with a catalytic ethylene oxide abator (>99% control).

Maximum design capacity (1742 Lab): There is one unit for sterilization. Each cycle takes 8 hrs, and uses one (1) 100g canister. 1742 Lab is uncontrolled.

9. Flammable Adhesives Aboveground Storage Tanks

Emissions were estimated using EPA Tanks 4.0. The VOC in 12-A-07 is 3% toluene, 25% xylene, 4% ethylbenzene; 12-A-08 contains no HAPs; VOC in 12-A-09 is 100% toluene.

10. 24J & 21J Extrusion Processes and 22J Solventless Coater

Extrusion:

Maximum design capacity (21J): 1,995 lb resin per hour Maximum design capacity (22J): 2,100 lb resin per hour Maximum design capacity (24J): 400 lb resin per hour

Extrusion VOC emission factor: 0.0003 lb/lb material from Section 6.6.3 of AP-42.

Coating:

Maximum design capacity (22J): 600 lb solventless coating per hour Maximum design capacity (24J): 1,905 tons hot melt adhesive per year Maximum design capacity (24J): 600 lbs of solventless coating per hour

22J Emissions from solventless coating were measured via stack test on 10/9/2002. Total VOC emissions were recorded as 0.3 lb/hr, which was multiplied by the maximum toluene content of 0.5% 24J adhesive emissions were calculated based on negligible VOC content per the SDS. To be conservative, the maximum throughput was multiplied by 0.1% VOC.

11. Makers 4K, 5K, 6K

MAXIMUM DESIGN CAPACITY BY MAKER:

	4K	5K	6K
Maximum Coating weight (mg/200 cm ²)	1860	1840	1160
Maximum Line Speed (m/min)	75	50	57
Maximum Web Width (in)	110	55	55
Maximum Solution % VOC	0.05%	0.01%	0.05%

SAMPLE CALCULATION (4K)

Assumptions:

Maximum Coating weight = 1860 mg/200 cm²

Maximum Line Speed = 75 m/min

Maximum Web Width = 110 in

Maximum Solution % VOC = 0.05% % Conservative assumption based on raw materials used.

VOC PTE:

 $1860 \text{ mg}/200 \text{ cm}^2 * \text{g}/1000 \text{ mg} * \text{lb}/453.6 \text{ g} * 75 \text{ m/min} * 100 \text{ cm/m} * 60 \text{ min/hr} * 110 \text{ in} * 2.54 \text{ cm/in} * 0.05\%$ 1.29 lb/hr VOC

HAP emissions estimated by indexing two years of HAP emissions to VOC emissions

12. Cooling Towers

	Tower #1	Tower #2	Tower #3
	Evapco/		
	USS 112-		
Manufacturer/Model	418	TowerTech	Marley
Water Circulation Rate (Mgal/mi	6000	1500	1000
Drift Rate	0.00%	0.01%	0.01%
Total Dissolved Solids (TDS) (ppm	2230	2230	2230
PM Emissions (lb/hr)	0.07	0.17	0.11

Drift rate for Tower #1 based on manufacturer data; drift rate for Towers #2 and #3 obtained from the Marley Cooling Tower Fundamentals Handbook

TDS concentration is a site specific testing value based on testing completed 2-28-2013.

The analysis showed 2230 milligrams per liter which can be converted to ppm.

SAMPLE CALCULATION (Tower #1)

PM PTE:

6,000 Mgal/min * 8.34 lbs/gal*0.001%*2230 ppm/1000000*60 min/hr = 0.07 lb/hr

"Calculating Realistic PM10 Emissions from Cooling Towers", Environmental Progress, Vol. 21, No. 2. (July, 2002), Joel Reisman and Gordon Frisbie

- 13. EPA AP-42 Chapter 3.3 for Gasoline and Diesel Industrial Engines, October 1996. Emission factors converted from lb/hp-hr to lb/mmbtu using an average brake-specific fuel consumption of 7,000 btu/hp-hr
- 14. Corona treater emission factors are based on manufacturer supplied data: Unit #32 & #33 0.072 lb/kW-hr (Pillar Technologies, 4/24/2012); Delta 2 Corona Treater 0.071 lb/kW-hr (Enercon Technologies, 8/14/2001) Where not specified, the more conservative value of 0.073 lb/kW-hr was used
- 15. There are no VOC or HAP emissions from the ECG Line and Attest Coater. These units are subject to MACT JJJJ, and therefore ineligible to be identified as insignificant activities.

Section 4.0

Permit Mark-Up

Permit #:

28.9901-06

Effective Date:

June 12, 2015

Expiration Date:

September 9, 2016

SOUTH DAKOTA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES
TITLE V AIR QUALITY OPERATING PERMIT

Steven M Pirner, P.E., Secretary
Department of Environment and Natural Resources

Under the South Dakota Air Pollution Control Program

Pursuant to Chapter 34A-1-21 of the South Dakota Codified Laws and the Air Pollution Control Regulations of the State of South Dakota and in reliance on statements made by the owner designated below, a permit to operate is hereby issued by the Secretary of the Department of Environment and Natural Resources. This permit authorizes such owner to operate the unit(s) listed in Table #1 under the listed conditions.

A. Owner

1. Company Name and Mailing Address

3M Company 3M Center, Building 224-5W-03 St. Paul, MN 55144

2. Actual Source Location if Different from Above

3M Brookings 601 22nd Avenue South Brookings, South Dakota 57006

3. Permit Contact

Jill Blissenbach, Advanced Environmental Scientist (651) 737-6528

4. Facility Contact

Paul L. Peterson, EHS Engineer (605) 696-1445

5. Responsible Official

James Fay, Plant Manager (605) 696-1239

B. Permit Revisions

- January 9, 2012 Permit modification to include the operation of a generator (Unit #31) and associated conditions;
- August 6, 2012 Administrative amendment to change contact information;
- September 10, 2012 Permit modification to add a corona treater (Unit #32);
- February 6, 2013 Administrative amendment to change responsible official; and

- August 9, 2013 Minor amendment to change generators applicability to 40 CFR Part 63, Subpart ZZZZ.
- September 30, 2013 Permit modification to construct and operate a corona treater.
- June 12, 2015 Administrative Amendment to change responsible official and permit contact.

C. Type of Operation

3M Company manufactures medical and surgical products.

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1.0 Standard Conditions

1.1 Operation of source

In accordance with Administrative Rules of South Dakota (ARSD) 74:36:05:16.01(8), the owner or operator shall operate the units, controls, and processes as described in Table 1-1 in accordance with the statements, representations, and supporting data contained in the complete permit application received November 2, 2010, September 27, 2011, May 14, 2012, May 20, 2013 and June 10, 2015, unless modified by the conditions of this permit. Except as otherwise provided herein, the control equipment shall be operated in a manner that achieves compliance with the conditions of this permit at all times. The application consists of the application forms, supporting data, and supplementary correspondence. If the owner or operator becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in an application, such information shall be promptly submitted.

Table 1-1 - Description of Permitted Units, Operations, and Processes

Unit	Description	Maximum Operating Rate	Control Device
#3	Boiler #3 – 1979 Trane Murray steam boiler. The boiler itself does not have any fuel fired burners. Heat is provided by the exhaust gases from the regenerative thermal oxidizer.	Not applicable	Not applicable
#4a	M1 coating line – 1975 custom built coating line with two coating stations operated in parallel. The two coating stations will not operate simultaneously.	Web throughput of 127 square meters per minute	Regenerative Thermal Oxidizer (Unit #4f)
#4b	M2 coating line – 1975 custom built coating line with two coating stations operated in parallel. The two coating stations will not operate simultaneously.	Web throughput is 187 square meters per minute	
#4c	M3 coating line – 1975 custom built coating line with two coating stations operated in parallel. The two coating stations will not operate simultaneously.	Web throughput is 330 square meters per minute	
#4d	M4 coating line and drum enclosure – 1994 custom built coating line and drum enclosure.	Web throughput is 198 square meters per minute	
#4e	M6 coating line – 2006 custom built coating line.	Web throughput is 198 square meters per minute	

	in there is the arrangement of the second of	Maximum	Control
Unit	Description	Operating Rate	Device
#4f	2004 regenerative thermal oxidizer. The regenerative thermal oxidizer is fired by the exhaust gases from the coating lines and natural gas. The exhaust gases from the regenerative thermal oxidizer may be routed to Boiler #3 or its own stack.	Burner #1 – 32 million Btus per hour heat input	Not applicable
#7	Mixing room consisting of various drums, totes, and mixers used to mix or blend solvents and adhesives before being applied by the coaters.	Not applicable	Not Applicable
#8	Die cleaning room used to clean parts with solvents.	Not applicable	Not Applicable
#9a	1990 Una-Dyn silo used to store polyethylene and polypropylene resin pellets.	Storage capacity is 7,200 cubic feet and can be loaded at 2,800 pounds per hour	1990 Donaldson dust filter
#9b	1990 Una-Dyn silo used to store polyethylene and polypropylene resin pellets.	Storage capacity is 7,200 cubic feet and can be loaded at 2,800 pounds per hour	1990 Donaldson dust filter
#9c	1990 Una-Dyn silo used to store polyethylene and polypropylene resin pellets.	Storage capacity is 7,200 cubic feet and can be loaded at 2,800 pounds per hour	1990 Donaldson dust filter
#9d	1990 Una-Dyn silo used to store polyethylene and polypropylene resin pellets.	Storage capacity is 7,200 cubic feet and can be loaded at 2,800 pounds per hour	1990 Donaldson dust filter
#10a	Transfer of polyethylene or polypropylene resin pellets from the silos to the extruder area.	2,800 pounds per hour per silo	1990 Una-Dyn baghouse
#10b	Transfer of polyethylene or polypropylene resin pellets from the silos to the extruder area.	2,800 pounds per hour per silo	1990 Una-Dyn baghouse
#10c	Transfer of polyethylene or polypropylene resin pellets from the silos to the extruder area.	2,800 pounds per hour per silo	1990 Una-Dyn baghouse
#11a	Oven on the 4K maker line fired with natural gas.	4.5 million Btus per hour heat input	Not applicable
#11b	Oven on the 4K maker line fired	4.5 million Btus per hour	Not applicable

		Maximum	Control	
Unit	Description	Operating Rate	Device	
#13a	with natural gas. The 1735 film lab uses ethylene oxide to sterilize health care products.	Not applicable	Donaldson catalytic ethylene oxide abator.	
#13b	The 1742 film lab uses ethylene oxide to sterilize health care products.	Not applicable	Not applicable	
#14a	Tanks 12-A-7 – 1992 Clauson Tank Company aboveground tank used to store flammable adhesives.	15,000 gallons	Located inside a building	
#14b	Tanks 12-A-8 – 1992 Clauson Tank Company aboveground tank used to store flammable adhesives.	15,000 gallons	Located inside a building	
#14c	Tanks 12-A-9 – 1992 Clauson Tank Company aboveground tank used to store flammable adhesives.	15,000 gallons	Located inside a building	
#17	24J extrusion process with hot melt coater – 2001 Davis Standard Corporation, model no. D-TEX-58, extruder.	1,905 tons of adhesive per year	Not applicable	
#18	22J solventless coater – 1993 Davis Standard Corporation, model #60IN60TPTH, coater, with a natural gas flame treater.	2,100 pounds per hour of resin and 600 pounds per hour of adhesive. The flame treater has a maximum capacity of 0.18 million Btus per hour heat input.	Not applicable	
#19	21J extrusion process – 1974 NRM, model Pacemaker III, extruder.	1,995 pounds of resin pellets per hour	Not applicable	
#20	4K maker line – 1971 custom built process for coating non-woven webs.	Not applicable	Not applicable	
#21	5K maker line – 1971 custom built process for coating non-woven webs.		Not applicable	
#22	6K maker line – 1971 custom built process for coating non-woven webs.	Secondary and the secondary and the secondary		
#24	Three industrial cooling towers.	Not applicable	Not applicable	
#25	Diesel Generator #2 – 2007 Detroit Diesel Series 60 emergency generator fueled with distillate oil.	635 horsepower or 400 kilowatts	Not applicable	

Unit	Description	Maximum Operating R		Control Device	
#27	Diesel Generator #1 – 1996 Ziegler/Caterpillar limited use diesel generator, model # 3406, fueled with distillate oil.	587 horsepower or 400 kilowatts		Not applicable	
#28	Boiler #4 – 2000 Johnston, model PFTA 1000-4 steam boiler, fired	33.5 million Btus hour heat input	per	Not applicable	
	with natural gas or distillate oil. The boiler is equipped with low NOx burners.	Boiler is not equi		1.1	
#29	Boiler #5 – 2000 Johnston, model PFTA 1000-4 steam boiler, fueled with natural gas. The boiler is equipped with low NO _x burners.	33.5 million Btus per hour heat input		Not applicable	
#30	Coating Line 2008 PCT Engineered Systems Membrane Imbibing Station	50 feet per minute speed)	(line Line nov	Not applicable ever installed, please e	
#31	Diesel Generator #3 – 2011 MTU Detroit, model #DS300D6S, nonemergency generator fueled with diesel.	343 kilowatts or 460 brake horsepower		Not applicable	
#32	2012 Pillar Technologies corona treater located on the 21 J extrusion process.	10 kilowatts		Not applicable	
#33	2013 Pillar Technologies corona treater.	10 kilowatts		Not applicable	

1.2 Duty to comply

In accordance with ARSD 74:36:05:16.01(12), the owner or operator shall comply with the conditions of this permit. An owner or operator who knowingly makes a false statement in any record or report or who falsifies, tampers with, or renders inaccurate, any monitoring device or method is in violation of this permit. A violation of any condition in this permit is grounds for enforcement, reopening this permit, permit termination, or denial of a permit renewal application. The owner or operator, in an enforcement action, cannot use the defense that it would have been necessary to cease or reduce the permitted activity to maintain compliance. The owner or operator shall provide any information requested by the Secretary to determine compliance or whether cause exists for reopening or terminating this permit.

1.3 Property rights or exclusive privileges

In accordance with ARSD 74:36:05:16.01(12), the State's issuance of this permit, adoption of design criteria, and approval of plans and specifications does not convey any property rights of any sort, any exclusive privileges, any authorization to damage, injure or use any private property, any authority to invade personal rights, any authority to violate federal, state or local laws or

regulations, or any taking, condemnation or use of eminent domain against any property owned by third parties. The State does not warrant that the owner's or operator's compliance with this permit, design criteria, approved plans and specifications, and operation under this permit, will not cause damage, injury or use of private property, an invasion of personal rights, or violation of federal, state or local laws or regulations. The owner or operator is solely and severally liable for all damage, injury or use of private property, invasion of personal rights, infringement of federal, state or local laws and regulations, or taking or condemnation of property owned by third parties, which may result from actions taken under the permit.

1.4 Penalty for violating a permit condition

In accordance with South Dakota Codified Laws (SDCL) 34A-1-39 and 34A-1-47, a violation of a permit condition may subject the owner or operator to civil or criminal prosecution, a state penalty of not more than \$10,000 per day per violation, injunctive action, administrative permit action, and other remedies as provided by law.

1.5 Inspection and entry

In accordance with SDCL 34A-1-41, the owner or operator shall allow the Secretary to:

- Enter the premises where a regulated activity is located or where pertinent records are stored;
- 2. Have access to and copy any records that are required under this permit;
- 3. Inspect operations regulated under this permit; and/or
- 4. Sample or monitor any substances or parameters for the purpose of assuring compliance.

1.6 Severability

In accordance with ARSD 74:36:05:16.01(11), any portion of this permit that is void or challenged shall not affect the validity of the remaining permit requirements.

1.7 Permit termination, modification, or revocation

In accordance with ARSD 74:36:05:46, the Secretary may recommend that the Board of Minerals and Environment terminate, modify, or revoke this permit for violations of SDCL 34A-1 or the federal Clean Air Act or for nonpayment of any outstanding fee or enforcement penalty.

1.8 Credible evidence

In accordance with ARSD 74:36:13:07, credible evidence may be used for the purpose of establishing whether the owner or operator has violated or is in violation of this permit. Credible evidence is as follows:

- Information from the use of the following methods is presumptively credible evidence of whether a violation has occurred at the source:
 - a. A monitoring method approved for the source pursuant to 40 CFR § 70.6(a)(3) and incorporated in this permit; or
 - b. Compliance methods specified in an applicable plan;
- 2. The following testing, monitoring, or information gathering methods are presumptively credible testing, monitoring, or information-gathering methods:

- a. Any monitoring or testing methods approved in this permit, including those in 40 CFR Parts 51, 60, 61, and 75; or
- b. Other testing, monitoring, or information-gathering methods that produce information comparable to that produced by any method in section (1) or (2)(a).

2.0 Permit Fees

2.1 Annual air fee required

In accordance with ARSD 74:36:05:06.01, the owner or operator shall submit an annual administrative fee and an annual fee. The fee is based on actual emissions in accordance with ARSD 74:37.

2.2 Annual operational report

In accordance with ARSD 74:37:01:06, the Secretary will supply the owner or operator with an annual operational report in January of each year. The owner or operator shall complete and submit the operational report to the Secretary by March 1 of each year. The responsible official shall sign the operational report in the presence of a notary public.

2.3 Annual air fee

In accordance with ARSD 74:37:01:08, the Secretary will notify the owner or operator of the required annual air emission fee and administrative fee by June 1 of each year. The fees shall accrue on July 1 and are payable to the Department of Revenue by July 31 of each year.

3.0 Permit Amendment and Modification Conditions

3.1 Permit flexibility

In accordance with ARSD 74:36:05:30, the owner or operator shall have the flexibility to make changes to the source during the term of this permit. The owner or operator shall provide the Secretary written notice at least seven days in advance of the proposed change (NOTE: The Secretary will forward a copy of the written notice to EPA). The written notice shall include a brief description of the change, the date on which the change is to occur, any change in emissions, the proposed changes to the permit, and whether the requested revisions are for an administrative permit amendment, minor permit amendment, or permit modification.

The Secretary will notify the owner or operator whether the change is an administrative permit amendment, a minor permit amendment, or a permit modification. A proposed change that is considered an administrative permit amendment or a minor permit amendment can be completed immediately after the Secretary receives the written notification. The owner or operator must comply with both the applicable requirements governing the change and the proposed permit terms and conditions until the Secretary takes final action on the proposed change.

A proposed change that is considered a modification cannot be constructed until the Secretary takes final action on the proposed change. Permit modifications are subject to the same

procedural requirements, including public comment, as the original permit issuance except that the required review shall cover only the proposed changes.

3.2 Administrative permit amendment

In accordance with ARSD 74:36:05:33, the Secretary has 60 days from receipt of a written notice to verify that the proposed change is an administrative permit amendment. As provided in ARSD 74:36:01:03, the Secretary considers a proposed change an administrative permit amendment if the proposed change accomplishes one of the following:

- 1. Corrects typographical errors;
- 2. Changes the name, address, or phone number of any person identified in this permit or provides a similar minor administrative change at the source;
- 3. Requires more frequent monitoring or reporting by the source;
- 4. The ownership or operational control of a source change and the Secretary determines that no other change in this permit is necessary. However, the new owner must submit a certification of applicant form and a written statement specifying the date for transfer of operating permit responsibility, coverage, and liability; or
- 5. Any other changes that the Secretary and the administrator of EPA determines to be similar to those requirements in this condition.

3.3 Minor permit amendment

In accordance with ARSD 74:36:05:38, the Secretary has 90 days from receipt of a written notice or 15 days after the end of EPA's 45-day review period, whichever is later, to take final action on a minor permit amendment. Final action consists of issuing or denying a minor permit amendment or determining that the proposed change is a permit modification. As provided in ARSD 74:36:05:35, the Secretary considers a proposed change to be a minor permit amendment if the proposed change:

- 1. Does not violate any applicable requirements;
- 2. Does not involve significant changes to existing monitoring, reporting, or record keeping requirements;
- 3. Does not require or change a case-by-case determination of an emission limit or other standard, a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis; or
- 4. Does not seek to establish or change a permit term or condition for which the source has assumed to avoid an applicable requirement, a federally enforceable emission cap, or an alternative emission limit. An alternative emission limit is approved pursuant to regulations promulgated under section 112(i)(5) of the federal Clean Air Act.

3.4 Permit modification

In accordance with ARSD 74:36:05:39, an owner or operator may apply for a permit modification. A permit modification is defined in ARSD 74:36:01:10 as a physical change in or change in the operation of a source that results in at least one of the following:

- 1. An increase in the amount of an air pollutant emitted by the source or results in the emission of an air pollutant not previously emitted;
- A significant change to existing monitoring, reporting, or record keeping requirements in the permit;
- 3. The change requires or changes a case-by-case determination of an emission limit or other standard, a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis; or
- 4. The change seeks to establish or change a permit term or condition for which there is a corresponding underlying applicable requirement that the source has assumed to avoid an applicable requirement, a federally enforceable emissions cap assumed to avoid classification as a modification under a provision of the Title I of the Clean Air Act, or an alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Clean Air Act.

Permit modifications are subject to the same procedural requirements, including public comment, as the original permit issuance except that the required review shall cover only the proposed changes.

3.5 Permit revision

In accordance with ARSD 74:36:05:40, the Secretary may reopen and revise this permit to meet requirements of SDCL 34A-1 or the federal Clean Air Act.

3.6 Testing new fuels or raw materials

In accordance with ARSD 74:36:11:04, an owner or operator may request permission to test a new fuel or raw material to determine if it is compatible with existing equipment before requesting a permit amendment or modification. A complete test proposal shall consist of the following:

- A written proposal that describes the new fuel or raw material, operating parameters, and parameters that will be monitored and any testing associated with air pollutant emissions during the test;
- 2. An estimate of the type and amount of regulated air pollutant emissions that will result from the proposed change; and
- The proposed schedule for conducting the test. In most cases the owner or operator will be allowed to test for a maximum of one week. A request for a test period longer than one week will need additional justification. A test period shall not exceed 180 days.

The Secretary shall approve, conditionally approve, or deny in writing the test proposal within 45 days after receiving a complete proposal. Approval conditions may include changing the test schedule or pollutant sampling and analysis methods. Pollutant sampling and analysis methods may include, but are not limited to performance testing, visible emission evaluation, fuel analysis, dispersion modeling, and monitoring of raw material or fuel rates.

If the Secretary determines that the proposed change will result in an increase in the emission of a regulated air pollutant or result in the emission of an additional regulated air pollutant, the Secretary shall give public notice of the proposed test for 30 days. The Secretary shall consider

all comments received during the 30-day public comment period before making a final decision on the test.

The Secretary will not approve a test if the test would cause or contribute to a violation of a national ambient air quality standard.

4.0 Permit Renewal Requirements

4.1 Permit effective

In accordance with ARSD 74:36:05:07, this permit shall expire five years from date of issuance unless reopened or terminated for cause.

4.2 Permit renewal

In accordance with ARSD 74:36:05:08, the owner or operator shall submit an application for a permit renewal at least 180 days before the date of permit expiration if the owner or operator wishes to continue an activity regulated by this permit. The current permit shall not expire and shall remain in effect until the Secretary takes final action on the timely permit renewal application.

4.3 Permit expiration

In accordance with ARSD 74:36:05:28, permit expiration terminates the owner's or operator's right to operate any unit covered by this permit.

5.0 Recordkeeping and Reporting Requirements

5.1 Recordkeeping and reporting

In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall maintain all monitoring data, records, reports, and pertinent information specified by this permit for five years from the date of sample, measurement, report, or application unless otherwise specified in this permit. The records shall be maintained on site for the first two years and may be maintained off site for the last three years. All records must be made available to the Secretary for inspection. All notifications and reports shall be submitted to the following address:

South Dakota Department of Environment and Natural Resources PMB 2020, Air Quality Program 523 E. Capitol, Joe Foss Building Pierre, SD 57501-3182

5.2 Signatory requirements

In accordance with ARSD 74:36:05:12 and ARSD 74:36:05:16.01, all applications submitted to the Secretary shall be signed and certified by a responsible official. A responsible official for a corporation is a responsible corporate officer and for a partnership or sole proprietorship is a general partner or the proprietor, respectively. All reports or other information submitted to the

Secretary shall be signed and certified by a responsible official or a duly authorized representative. A person is a duly authorized representative only if:

- The authorization is made in writing by a person described above and submitted to the Secretary; and
- The authorization specifies either an individual or a position having responsibility for the overall
 operation of the regulated facility, such as the position of plant manager, superintendent,
 position of equivalent responsibility, or an individual or position having overall responsibility
 for environmental matters.

The responsible official shall notify the Secretary if an authorization is no longer accurate. The new duly authorized representative must be designated prior to or together with any reports or information to be signed by a duly authorized representative.

5.3 Certification statement

In accordance with ARSD 74:36:05:16.01(14)(a), all documents required by this permit, including application forms, reports, and compliance certification, must be certified by a responsible official or a duly authorized representative. The certification shall include the following statement:

"I certify that, based on information and belief formed after reasonable inquiry, the statements and information in this document and all attachments are true, accurate, and complete."

5.4 Tanks design drawings

In accordance with ARSD 74:36:07:14, as referenced to 40 CFR § 60.110b(b) and (c), the owner or operator shall maintain plans and specifications that show the dimensions and an analysis of the capacity of Tanks 12-A-7, 12-A-8, and 12-A-9. The plans and specifications shall be maintained for the life of the facility.

5.5 Monitoring log

In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall maintain a monitoring log. The monitoring log shall contain the following information.

- Maintenance schedule for each piece of control equipment listed in Table 1-1. At a minimum, the maintenance schedule shall meet the manufacturer's recommended schedule for maintenance. The following information shall be recorded for maintenance:
 - a. Identify the unit;
 - b. The date and time maintenance was performed;
 - c. Description of the type of maintenance;
 - d. Reason for performing maintenance;
 - e. Signature of person performing maintenance;
- 2. The following information shall be recorded for each visible emission reading required in permit condition 11.1:
 - a. Identify the unit;
 - b. The date and time the visible emission reading was performed;

- c. If visible emissions were observed;
- d. Description of maintenance performed to eliminate visible emissions;
- e. Visible emission evaluation if visible emissions are not eliminated; and
- f. Signature of person performing visible emission reading and/or visible emission evaluation;
- 3. The owner or operator shall maintain relevant records of the occurrence and duration of each startup, shutdown, or malfunction of process equipment and/or air pollution control equipment; and
- 4. The following information shall be recorded within two days of each emergency exceedance:
 - a. The date of the emergency exceedance and the date the emergency exceedance was reported to the Secretary;
 - b. The cause(s) of the emergency;
 - c. The reasonable steps taken to minimize the emissions during the emergency; and
 - d. A statement that the permitted equipment was at the time being properly operated.

5.6 Monthly ethylene oxide records

In accordance with ARSD 74:36:08:10, as referenced to 40 CFR § 63.367(c), the owner or operator shall maintain a calendar month record of the amount of ethylene oxide used each month. A 12-month rolling total shall be calculated every month using that month's value and the previous 11 months' values to demonstrate compliance with permit condition 6.7.

5.7 Monthly coating records for M1, M2, M3, M4, and M6 coater lines

In accordance with ARSD 74:36:09:02, as referenced to ARSD 74:36:05:16.01(9), the owner or operator shall record and maintain the following information on a monthly basis:

- 1. A monthly record of the amount of volatile organic compound emissions, in tons, emitted into the ambient air from the M1, M2, M3, M4, and M6 coating lines when the exhaust gases are not passed through the regenerative thermal oxidizer;
- 2. A monthly record of all coatings used by the M1, M2, M3, M4, and M6 coating lines when the exhaust gases are passed through the regenerative thermal oxidizer;
- 3. Calculate the amount of volatile organic compounds, in tons, emitted into the ambient air from the M1, M2, M3, M4, and M6 coating lines during the month when the exhaust gases are passed through the regenerative thermal oxidizer using Equation 5-1;

Equation 5-1 - Calculating M1, M2, M3, M4, and M6 coating line emissions

$$E_{VOC} = (VOC_{input} \times CE \times (1 - DE)) + (VOC_{input} \times (1 - CE))$$

Where:

- E _{VOC} = Monthly volatile organic compound emissions, in tons, from the coating line through regenerative thermal oxidizer;
- VOC input = Quantity of volatile organic compounds, in tons, inputted to the coating line
 when exhaust gases from the coating line are passed through the regenerative thermal
 oxidizer;
- CE = Capture efficiency of the coating line capture system based on the most recent capture efficiency test; and

- DE = Destruction efficiency of the regenerative thermal oxidizer as determined by the most recent destruction efficiency test.
- 4. Calculate the amount of volatile organic compounds, in tons, emitted into the ambient air from the M1 coating line during the month and during the 12-month rolling period for that month. The monthly volatile organic compounds emissions from the M1 coating line is the summation of paragraph (2) and (3) of this permit condition; and
- 5. The overall volatile organic control efficiency for the M1, M2, M3, M4, and M6 coating lines shall be calculated for the regenerative thermal oxidizer using Equation 5-2.

Equation 5-2 – Overall VOC control efficiency for M1, M2, M3, M4, and M6 coating lines $EF = ((((1-(CE_{M1} \times (1-DE_{M1})+(1-CE_{M1}))) + (1-(CE_{M2} \times (1-DE_{M2})+(1-CE_{M2}))) + (1-(CE_{M3} \times (1-DE_{M3})+(1-CE_{M3}))) + (1-(CE_{M3} \times (1-DE_{M3})+(1-CE_{M3}))) + (1-(CE_{M3} \times (1-DE_{M3})+(1-CE_{M3}))) + (1-(CE_{M3} \times (1-DE_{M3})+(1-CE_{M3}))) \times (100) / (the number of coating lines operated – 0 through 5)$

Where:

- EF = Overall volatile organic compound control efficiency;
- CE = Capture efficiency of the coating line capture system based on the most recent capture efficiency test; and
- DE = Destruction efficiency of the regenerative thermal oxidizer as determined by the most recent destruction efficiency test.

5.8 Installation of non-resettable clocks on diesel generators

In accordance with ARSD 74:36:13:01, the owner or operator shall install a non-resettable clock on Unit #25 and #27. The clocks shall continuously record the hours of operation for each diesel engine.

5.9 Annual records

In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall calculate and record the following amounts from January 1 to December 31 of each year:

- 1. The amount of natural gas and distillate oil burned in Units #4c, #4f, #11a, #11b, #18, #21, #22, #25, #27, #28, and #29;
- 2. The amount of volatile organic compounds emitted from Units #4a, #4b, #4c, #4d, 4e, #7, #8, #14a, #14b, #14c, #17 through #22, and #30; and
- 3. The amount of resin transferred through Units #9a, #9b, #9c, #9d, #10a, #10b, and #10c.

5.10 Quarterly report

In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall submit a quarterly report to the Secretary. The quarterly report shall contain the following information:

1. Name of facility, permit number, reference to this permit condition, identifying the submittal as a quarterly report and calendar dates covered in the reporting period; and

- 2. The quantity of volatile organic compounds emitted from the M1, M2, M3, M4, and M6 coating lines, in tons, in each month and the 12-month rolling total for each month in the reporting period and supporting documentation; and
- 3. The overall volatile organic compound emission control efficiency for Unit #4a through #4e, in percent, for each month in the reporting period, the 12-month rolling total for each month in the reporting period, and supporting documentation.

The information required for the quarterly report in permit condition 7.14 may be combined with this quarterly report and submitted together. Quarterly reports must be postmarked no later than 30 days after the end of the reporting period.

5.11 Semiannual compliance report

In accordance with ARSD 74:36:08:03, as referenced to 40 CFR § 63.10(d)(5)(i), and 74:36:08:29, as referenced to 40 CFR § 63.3400(c), the owner or operator shall submit a semiannual compliance report to the Secretary. The semiannual report shall contain the following information:

- 1. Name of facility, permit number, reference to this permit condition, and identification of the submittal as a semiannual compliance report;
- 2. Statement by a responsible official with that official's name, title, and signature certifying the accuracy of the content of the report;
- 3. Date of the report and beginning and ending dates of the reporting period;
- 4. A copy of the results of each distillate oil analysis obtained during the reporting period;
- 5. The following information related to actions taken by the owner or operator during startups, shutdowns, and malfunctions that occurred during the reporting period:
 - a. The number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded:
 - b. The owner or operator shall state if the actions taken by an owner or operator during a startup, shutdown, or malfunction are consistent with the procedures specified in the startup, shutdown, and malfunction plan; and
 - c. The owner or operator shall identify any instance where any action taken by an owner or operator during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) is not consistent with the startup, shutdown, and malfunction plan, but the source does not exceed any applicable emission limitation in the relevant emission standard;
- 4. If there are no deviations from any applicable emission limit or operating limit, a statement that there were no deviations during the reporting period, and that no continuous monitoring system was inoperative, inactive, malfunctioning, out-of-control, or adjusted.
- 5. For each deviation from an applicable emission limit or operating limit, the compliance report must contain the following information:
 - a. The total operating time of Unit #4a, #4b, #4c, #4d, #4e, #17, #18, #20 through #23, and #30 during the reporting period;
 - b. Information on the number, duration, and cause of deviations, including unknown cause, if applicable, and the corrective action taken; and

c. Information on the number, duration, and cause for continuous parameter monitoring system downtime incidents, if applicable, other than downtime associated with zero and span and other calibration checks.

The semiannual reports shall cover the periods July 1 through December 31 and January 1 through June 30 of each year. The semiannual reports must be postmarked or delivered no later than January 31 or July 31 of each year.

5.12 Startup, shutdown, and malfunction plan

In accordance with ARSD 74:36:08:03, as referenced to 40 CFR § 63.6(e)(3), the owner or operator shall develop and implement a written startup, shutdown, and malfunction plan by December 5, 2005, that describes, in detail, the following:

- 1. Procedures for operating and maintaining Units #4a, #4b, #4c, #4d, #4e, #17, #18, and #20 through #23, and the associated air pollution control and monitoring equipment during periods of startup, shutdown, and malfunctions;
- 2. Ensure that, at all times, the owner or operator operates and maintains Units #4a, #4b, #4c, #4d, #4e, #17, #18, and #20 through #23, and associated air pollution control and monitoring equipment in a manner which satisfies the general duty to minimize emissions established by permit condition 6.20;
- Ensure that owner or operator are prepared to correct malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of hazardous air pollutants; and
- 4. A program of corrective action for malfunctioning process and air pollution control and monitoring equipment used to comply with the relevant standard.

The owner or operator may use its standard operating procedures (SOP) manual, an Occupational Safety and Health Administration (OSHA), or other plan, as its startup, shutdown, and malfunction plan provided the alternative plans meet all the requirements of this permit condition.

During periods of startup, shutdown, and malfunction, the owner or operator must operate and maintain the permitted units, associated air pollution control devices, and monitoring equipment in accordance with the procedures specified in the startup, shutdown, and malfunction plan. If the startup, shutdown, and malfunction plan is revised, the owner or operator must maintain at the facility each previous (i.e., superseded) version of the startup, shutdown, and malfunction plan. If at any time after adoption of a startup, shutdown, and malfunction plan the owner or operator ceases operation, the owner or operator must retain a copy of the most recent plan for five years from the date the source ceases operation.

5.13 Startup, shutdown, and malfunction records

In accordance with ARSD 73:36:08:03, as referenced to 40 CFR § 63.10(b)(2), the owner or operator shall maintain the following records for the operations, air pollution control devices, and monitoring equipment associated with Units #4a, #4b, #4c, #4d, #4e, #17, #18, and #20 through #22:

1. The occurrence and duration of each startup, shutdown, or malfunction;

- All required maintenance performed on the air pollution control devices and monitoring equipment;
- 3. Actions taken during periods of startup, shutdown, and malfunctions when such actions are different from the procedures specified in the startup, shutdown, and malfunction plan. This includes corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation; and
- 4. All information necessary to demonstrate conformance with the startup, shutdown, and malfunction plan when all actions taken during periods of startup, shutdown, and malfunction are consistent with the procedures specified in the plan. This information may be recorded using a "check list" or some other effective form of record keeping;

5.14 Annual compliance certification

In accordance with ARSD 74:36:05:16.01(14), the owner or operator shall submit an annual compliance certification letter to the Secretary by March 1 of each year this permit is in effect (NOTE: The Secretary will forward a copy of the certification letter to EPA). The certification shall contain the following information:

- Methods used to determine compliance, including: monitoring, record keeping, performance testing and reporting requirements;
- 2. The source is in compliance and will continue to demonstrate compliance with all applicable requirements;
- In the event the source is in noncompliance, a compliance plan that indicates how the source has or will be brought into compliance; and
- 4. Certification statement required in permit condition 5.3.

5.15 Immediate reporting

In accordance with ARSD 74:36:08:03, as referenced to 40 CFR § 63.10(d)(5)(ii), if an action taken by the owner or operator during a startup, shutdown, or malfunction is not consistent with the procedures specified in the startup, shutdown, and malfunction plan, and exceeds any applicable emission limit in this permit, then the owner or operator must record the actions taken for that event and must report by telephone or in writing of such actions within two working days after commencing actions inconsistent with the plan, followed by a letter, delivered or postmarked within seven working days after the end of the event, unless the owner or operator makes alternative reporting arrangements, in advance, with the Secretary. The letter shall contain the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy, explaining the circumstances of the event, the reasons for not following the startup, shutdown, and malfunction plan, and describing all excess emissions and/or parameter monitoring exceedances which are believed to have occurred.

5.16 Reporting permit violations

In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall report all permit violations. A permit violation should be reported as soon as possible, but no later than the first business day following the day the violation was discovered. The permit violation may be reported by telephone to the South Dakota Department of Environment and Natural Resources at (605) 773-3151 or by FAX at (605) 773-5286.

A written report shall be submitted within five days of discovering the permit violation. Upon prior approval from the Secretary, the submittal deadline for the written report may be extended up to 30 days. The written report shall contain:

- Description of the permit violation and its cause(s);
- 2. Duration of the permit violation, including exact dates and times; and
- 3. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the permit violation.

6.0 Control of Regulated Air Pollutants

6.1 Visibility limit

In accordance with ARSD 74:36:12:01, the owner or operator may not discharge into the ambient air an air contaminant of a density equal to or greater than that designated as 20 percent opacity from any permitted unit, operation, or process listed in Table 1-1. This provision does not apply when the presence of uncombined water is the only reason for failure to meet the requirement.

6.2 Visibility exceedances

In accordance with ARSD 74:36:12:02, an exceedance of the operating limit in permit condition 6.1 is not considered a violation during brief periods of soot blowing, start-up, shutdown, or malfunctions. Malfunction means any sudden and unavoidable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. A failure caused entirely or in part by poor maintenance, careless operation, preventable equipment breakdown, or any other cause within the control of the owner or operator of the source is not a malfunction and is considered a violation.

6.3 Total suspended particulate matter limits

In accordance with ARSD 74:36:06:02(1) and/or ARSD 74:36:06:03(1), the owner or operator shall not allow the emission of total suspended particulate matter in excess of the emission limit specified in Table 6-1 for the appropriate permitted unit, operation, and process:

Table 6-1 - Particulate Emission Limit

Unit	Description	Emission Limit
#4f 1	Regenerative thermal oxidizer	0.5 pounds per MMBtus heat input
#9a	Resin silo	5.1 pounds per hour
#9b	Resin silo	5.1 pounds per hour
#9c	Resin silo	5.1 pounds per hour
#9d	Resin silo	5.1 pounds per hour
#10a	Transfer from silos to extruders	5.1 pounds per hour
#10b	Transfer from silos to extruders	5.1 pounds per hour
#10c	Transfer from silos to extruders	5.1 pounds per hour
#11a	4K maker line, Oven #1	0.6 pounds per million Btus heat input
#11b	4K maker line, Oven #2	0.6 pounds per million Btus heat input

Unit	Description	Emission Limit
#25	Diesel generator #2	0.5 pounds per million Btus heat input
#27	Diesel generator #1	0.5 pounds per million Btus heat input
#28	Boiler #4	0.5 pounds per million Btus heat input
#29	Boiler #5	0.5 pounds per million Btus heat input

The emissions from the regenerative thermal oxidizer may pass through the stack associated with Unit #4f or may pass through the stack associated with Unit #3. In either case, the particulate limit is applicable to both stacks.

6.4 Sulfur dioxide limits

In accordance with ARSD 74:36:06:02(2) and/or ARSD 74:36:06:03(2), the owner or operator shall not allow the emission of sulfur dioxide in excess of the emission limit specified in Table 6-2 for the appropriate permitted unit, operations, and process.

Table 6-2 - Sulfur Dioxide Emission Limit

Unit	Description	Emission Limit
#4f 1	Regenerative Thermal Oxidizer	3.0 pounds per million Btus heat input
#11a	4K maker line, Oven #1	3.0 pounds per million Btus heat input
#11b	4K maker line, Oven #2	3.0 pounds per million Btus heat input
#25	Diesel generator #2	3.0 pounds per million Btus heat input
#27	Diesel generator #1	3.0 pounds per million Btus heat input
#28	Boiler #4	3.0 pounds per million Btus heat input
#29	Boiler #5	3.0 pounds per million Btus heat input

¹ – The emissions from the regenerative thermal oxidizer may pass through the stack associated with Unit #4f or may pass through the stack associated with Unit #3. In either case, the sulfur dioxide limit is applicable to both stacks.

Compliance with the sulfur dioxide emission limit is based on a three-hour rolling average, which is the arithmetic average of three contiguous one-hour periods.

6.5 Nitrogen oxide limit for Unit #28 and #29

In accordance with ARSD 74:36:09:02, as referenced to ARSD 74:36:05:16.01(8), the owner or operator shall not allow the emissions of nitrogen oxide from Unit #28 and Unit #29 in excess of 0.04 pounds per million Btus while firing natural gas.

Unit #28 burns

6.6 Distillate oil limit for Unit #28

In accordance with ARSD 74:36:05:16.01(8), the owner or operator shall not burn more than 500,000 gallons total in Unit #28 during any 12 month rolling period. The 12 month rolling total shall be calculated every month using that month's value and the previous 11 months' values.

natural gas only.

6.7 Ethylene oxide limit

In accordance with ARSD 74:36:08:10, as referenced to 40 CFR § 63.360(b), the owner or operator shall not use one ton or greater of ethylene oxide in any 12-month rolling period. Compliance shall be determined based on the monthly records required in permit condition 5.6.

6.8 M1 coating line long term volatile organic compound emission limit

In accordance with ARSD 74:36:05:16.01(8), the owner or operator shall limit the volatile organic compound emissions from the M1 coating line to less than or equal to 264 tons of volatile organic compound emission per 12-month period. Compliance with the volatile organic compound emission limit shall be based on a 12-month rolling total. The 12-month rolling total is determined by adding each monthly volatile organic compound emission rate determined in permit condition 5.7 to the 11 previous monthly emission rates.

6.9 Coating line volatile organic compound input limits

In accordance with ARSD 74:36:05:16.01(8), the owner or operator shall not allow the input of volatile organic compound emission to the M1, M2, M3, M4, and M6 coating lines in excess of the emission limits specified in Table 6-3 for the appropriate permitted unit, operation or process.

Table 6-3	- VOC	Emission	Input	Limit
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Unit	Description	VOC Input Limit	
#4a	M1 coating line	2,300 pounds per hour	
#4b	M2 coating line	3,300 pounds per hour	
#4c M3 coating line		6,500 pounds per hour	
#4d	M4 coating line	3,500 pounds per hour	
#4e	M6 coating line	3,500 pounds per hour	

6.10 M1, M2, and M3 coating lines

In accordance with ARSD 74:36:05:16.01(8), the owner or operator may allow the emissions from the M1, M2, and M3 coating lines to bypass the regenerative thermal oxidizer for the following reasons:

- Times when the control device is not operating due to startup, shutdown, and malfunctions of
 the control device. A failure caused entirely or in part by poor maintenance, careless
 operation, preventable equipment breakdown, or any other cause within the control of the
 owner or operator of the source is not considered a malfunction; or
- Times when preventative maintenance is being conducted on the regenerative thermal
 oxidizer. Excessive preventative maintenance caused entirely or in part by poor maintenance,
 careless operation or any other cause within the control of the owner operator is not
 considered preventative maintenance; or
- 3. Times when water-based coating solutions are being used on the coating line(s). To be considered a water-based coating solution, the solution shall not contain more than five percent volatile organic compounds; and
- The owner or operator can demonstrate compliance with permit condition 6.10 during the bypass.

6.11 Overall control efficiency for M1, M2, M3, M4, and M6 coating lines

In accordance with ARSD 74:36:05:16.01(8), the owner or operator shall maintain a 93 percent volatile organic compound control efficiency for the M1, M2, M3, M4, and M6 coating lines when passing the exhaust gases through the regenerative thermal oxidizer. The overall control efficiency for the regenerative thermal oxidizer shall be determined by the calculation by Equation 5-2.

6.12 Organic HAP limit for Unit #4, #17, #18, #20 through #22, and #30

In accordance with ARSD 74:36:08:29, as referenced to 40 CFR §§ 63.3320(a) and (b) and 63.3330(a), on and after December 5, 2005, the owner or operator shall limit the organic hazardous air pollutant emissions from Units #4a, #4b, #4c, #4d, #4e, #17, #18, #20 through #22, and #30 by one or a combination of the following methods:

- No more the five percent of the organic hazardous air pollutant applied for each month (95 percent reduction); or
- 2. No more than four percent of the mass of coating materials applied for each month; or
- 3. No more than 20 percent of the mass of coating solids applied for each month.

Compliance with this permit condition shall be demonstrated based on the permit conditions in Chapter 8.0 and/or 9.0.

Unit #28 burns

6.13 Sulfur content limit

In accordance with ARSD 74:36:05:16.01(8), the owner or operator shall not burn distillate oil with a sulfur content greater than 0.05 weight percent sulfur by weight in Unit #28.

6.14 BACT limits for volatile organic compounds

In accordance with ARSD 74:36:09:02, as referenced to 40 CFR § 52.21(j)(3), on or after the initial startup of the M6 coater line the owner or operator shall not allow the emissions of volatile organic compounds from Unit #4e in Table 1-1 to have less than a 96 percent overall control efficiency except when coating products with a volatile organic compound content less than 4% are used. Compliance with the overall control efficiency shall be determined on a monthly basis.

6.15 Restriction on water treatment chemicals for cooling towers

In accordance with ARSD 74:36:08:11, as referenced to 40 CFR §§ 63.402 and 63.404(b), no owner or operator shall use chromium based water treatment chemicals in an industrial process cooling tower. A cooling water sample residual hexavalent chromium concentration in excess of 0.5 parts per million by weight shall be considered a violation.

6.16 Air emission exceedances - emergency conditions

In accordance with ARSD 74:36:05:16.01(18), the Secretary will allow for an unavoidable emission exceedance of a technology-based emission limit if the exceedance is caused by an emergency condition and immediate action is taken by the owner or operator to restore the operations back to normal. An emergency condition is a situation arising from a sudden and reasonably unforeseeable event beyond the control of the source, including acts of God. An emergency shall not include an emission exceedance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error. The owner or operator shall notify the Secretary within two working days of the incident and take all steps possible to eliminate the excess emissions. The notification must provide a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken. If the notification is submitted orally, a written report summarizing the information required by the notification shall be submitted and postmarked within 30 days of the oral notification.

6.17 Circumvention not allowed

In accordance with ARSD 74:36:05:47.01 and ARSD 74:36:08:03, as referenced to 40 CFR § 63.4(b), the owner or operator may not build, erect, install, or use any article, machine, equipment, or process that conceals or dilutes an air emission that would otherwise constitute noncompliance with a relevant standard. This includes but is not limited to the use of diluents to achieve compliance with a relevant standard based on the concentration of a pollutant in the effluent discharged to the atmosphere, the use of gaseous diluents to achieve compliance with a relevant standard for visible emissions, or operating a unit or control device that emits air pollutants from an opening other than the designed stack, vent, or equivalent opening.

6.18 Minimizing emissions

In accordance with ARSD 74:36:07:01, as referenced to 40 CFR § 60.11(d) and ARSD 74:36:08:03, as referenced to 40 CFR § 63.6(e)(1), the owner or operator shall at all times, when practicable, maintain and operate all permitted units, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. This includes periods of startup, shutdown, and malfunctions unless otherwise specified in this permit.

During a period of startup, shutdown, or malfunction, this general duty to minimize emissions requires the owner or operator to reduce emissions from the affected source to the greatest extent which is consistent with safety and good air pollution control practices. The general duty to minimize emissions during a period of startup, shutdown, or malfunction does not require the owner or operator to achieve emission levels that would be required by the applicable standard at other times if this is not consistent with safety and good air pollution control practices, nor does it require the owner or operator to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved.

Determination of whether such operation and maintenance procedures are being used will be based on information available to the Secretary which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. Malfunctions must be corrected as soon as practicable after their occurrence in accordance with the startup, shutdown, and malfunction plan. To the extent that an unexpected event arises during a startup, shutdown, or malfunction, an owner or operator must comply by minimizing emissions during such a startup, shutdown, and malfunction event consistent with safety and good air pollution control practices.

7.0 VOC Reductions - Unit #4d, #4e, #17, and #18

7.1 VOC emission reduction – Unit #4d and #4e

In accordance with ARSD 74:36:07:21, as referenced to 40 CFR § 60.442(a)(2)(i), the owner or operator shall achieve a 90 percent overall volatile organic compound emission reduction as calculated over a calendar month for the M4 and M6 coater lines. In accordance with ARSD 74:36:07:21, as referenced to 40 CFR § 60.443(j), the owner or operator shall include the startup and shutdown emissions from the M4 and M6 coater lines when determining if the 90 percent

overall volatile organic compound emission reduction is attained. Compliance with this permit condition shall be determined by permit conditions 7.6.

7.2 VOC emission reduction – Unit #17 (24J hot melt coater)

In accordance with ARSD 74:36:07:21, as referenced to 40 CFR § 60.442(a)(1), the owner or operator shall not cause the discharge into the atmosphere from Unit #17 of more than 0.20 kilograms of volatile organic compounds per kilogram of coating solids applied. Compliance is calculated on a weighted average basis for one calendar month.

In accordance with ARSD 74:36:07:21, as referenced to 40 CFR § 60.440(b), the owner or operator is exempt from the volatile organic compound emission limit in this permit condition if the input to Unit #17 is not greater than 45 megagrams (50 tons) of volatile organic compounds per 12-month period. Compliance with the material input limit shall be determined on a 12-month rolling total as referenced to permit condition 7.10.

7.3 VOC emission reduction – Unit #18 (22J solventless coater)

In accordance with ARSD 74:36:07:21, as referenced to 40 CFR § 60.442(a)(1), the owner or operator shall not cause the discharge into the atmosphere from Unit #18 of more than 0.20 kilograms of volatile organic compounds per kilogram of coating solids applied. Compliance is calculated on a weighted average basis for one calendar month.

In accordance with ARSD 74:36:07:21, as referenced to 40 CFR § 60.440(b), the owner or operator is exempt from the volatile organic compound emission limit in this permit condition if the input to Unit #18 is not greater than 45 megagrams (50 tons) of volatile organic compounds per 12-month period. Compliance with the material input limit shall be determined on a 12-month rolling total as referenced to permit condition 7.10.

7.4 Calculate weighted average of VOC per coating solids applied

In accordance with ARSD 74:36:07:21, as referenced to 40 CFR § 60.443(a), the owner or operator shall calculate the weighted average mass (kilograms) of volatile organic compounds per mass (kilogram) of coating solids applied each calendar month "G" for Unit #4d (M4 coater line) and #4e (M6 coater line).

If the input to Unit #17 exceeds 45 megagrams (50 tons) of volatile organic compounds per 12-month period, the owner or operator shall begin calculating the weighted average mass (kilograms) of volatile organic compounds per mass (kilogram) of coating solids applied each calendar month "G" to determine compliance with permit condition 7.2.

If the input to Unit #18 exceeds 45 megagrams (50 tons) of volatile organic compounds per 12-month period, the owner or operator shall begin calculating the weighted average mass (kilograms) of volatile organic compounds per mass (kilogram) of coating solids applied each calendar month "G" to determine compliance with permit condition 7.3.

"G" shall be determined by the following procedures:

- Determine the weight fraction of organics and the weight fraction of solids of each coating applied by using 40 CFR, Part 60, Appendix A, Reference Method 24 or by the coating manufacturer's formulation data; and
- 2. Compute the weighted average using Equation 7-1.

Equation 7-1 - Calculating weighted average VOC per coating solids applied

$$G = \frac{\sum_{i=1}^{n} W_{oi} M_{ci}}{\sum_{i=1}^{n} W_{si} M_{ci}}$$

Where

- G = the calculated weighted average mass (kilograms) of volatile organic compounds per mass (kilograms) of coating solids applied each calendar month;
- M_{ci} = the total mass (kilograms) of each coating, i, applied during the calendar month as determined from records;
- W_{oi} = the weight fraction of organics applied of each coating, i, applied during a calendar month as determined from 40 CFR Part 60, Appendix A, Reference Method 24 or coating manufacturer's formulation data; and
- W_{si} = the weight fraction of solids applied of each coating, i, applied during a calendar month as determined from 40 CFR Part 60, Appendix A, Reference Method 24 or coating manufacturer's formulation data.

7.5 Calculating overall VOC emission reduction – Unit #4d and #4e

In accordance with ARSD 74:36:07:21, as referenced to 40 CFR § 60.443(b), the owner or operator shall calculate the required overall volatile organic compound emission reduction "R_q" for the Unit #4d (M4 coater line) and #4e (M6 coater line) each month. "R_q" shall be based on Equation 7-2.

Equation 7-2 - Overall volatile organic compound emission reduction

$$R_q = \frac{G - 0.20}{G} x 100$$

Where:

- G = the calculated weighted average mass (kilograms) of volatile organic compounds per mass (kilograms) of coating solids applied each calendar month; and
- R_q = the required overall volatile organic compound emission reduction (in percent).

If " R_q " is less than or equal to 90 percent, then the required overall volatile organic compound emission reduction is " R_q ". If the " R_q " is greater than 90 percent, then the required overall volatile organic compound emission reduction is 90 percent.

7.6 Compliance with overall VOC emission reduction - Unit #4d and #4e

In accordance with ARSD 74:36:07:21, as referenced to 40 CFR § 60.443(d), the owner or operator shall determine compliance with permit condition 7.1 each month. Monthly compliance will be determined by comparing the required overall monthly volatile organic compound

emission reduction " R_q " as determined by permit condition 7.5 to the overall volatile organic compound emission reduction demonstrated with the most recent performance test. Compliance is achieved if the monthly required overall volatile organic compound emission reduction is less than or equal to the overall volatile organic compound emission reduction of the most recent performance test.

7.7 Compliance demonstration for Unit #4d and #4e

In accordance with ARSD 74:36:07:21, as referenced to 40 CFR § 60.443(i), the owner or operator shall determine compliance with permit condition 7.1 using the following procedures when volatile organic compound emissions from existing units are destroyed by the regenerative thermal oxidizer:

- 1. The owner or operator shall operate the regenerative thermal oxidizer during each performance test with both the existing units and the M4 and M6 coater lines connected;
- 2. The concentration of volatile organic compounds (in parts per million by volume) after the regenerative thermal oxidizer shall be determined by the most recent performance test following the procedures outlined in permit condition 7.13. This concentration shall be used in the calculation of compliance with permit condition 7.1;
- 3. The volumetric flow out of the regenerative thermal oxidizer attributable to the M4 and M6 coater lines shall be calculated by first determining the ratio of the volumetric flow entering the regenerative thermal oxidizer attributed to the M4 and M6 coater lines to the total volumetric flow entering the regenerative thermal oxidizer from both existing units (M1, M2, and M3 coating lines) and the M4 and M6 coater lines. The multiplication of this ratio by the total volumetric flow out of the regenerative thermal oxidizer yields the flow attributable to the M4 and M6 coater lines; and
- 4. Compliance is determined by the use of Equation 7-3.

7.8 Continuous temperature monitoring and records

In accordance with ARSD 74:36:07:21, as referenced to 40 CFR §§ 60.443(e) and 60.445(e), the owner or operator shall install, calibrate, maintain, and operate a monitoring device which continuously indicates and records the temperature of the exhaust gases from the regenerative thermal oxidizer when operational. The combustion temperature shall be monitored in the firebox of the regenerative thermal oxidizer or immediately downstream of the firebox before any substantial heat exchange occurs. The monitoring device shall have an accuracy of the greater of plus or minus 0.75 percent of the temperature being measured expressed in degrees Celsius or plus or minus 2.5 degrees Celsius. The owner or operator shall record all 3-hour periods during actual coating operations when the average temperature of the regenerative thermal oxidizer is more than 28 degrees Celsius (50 degrees Fahrenheit) below the average temperature determined by the most recent performance test and report these 3-hour periods in the quarterly report required in permit condition 7.14.

If the continuous monitoring device or recording equipment is not functional for more than one hour, the owner or operator shall cease operation of the M4 and M6 coater lines and discontinue using the M4 and M6 coater lines until the continuous monitor and recorder are operational.

If the temperature of the exhaust gases exiting the regenerative thermal oxidizer combustion chamber falls below the desired temperature by more than 28 degrees Celsius (50 degrees Fahrenheit) for more than one 3-hour period, the owner or operator shall perform the following steps:

- The owner or operator will only operate the regenerative thermal oxidizer at or above the average temperature achieved during the most recent performance test that demonstrated compliance; and
- 2. Conduct a performance test on the regenerative thermal oxidizer to determine compliance at the lower operating temperature. The performance test shall be conducted within 60 days after the date the temperature dropped below the desired temperature by more than 28 degrees Celsius (50 degrees Fahrenheit) for more than one hour. If the performance test demonstrates compliance at the lower temperature, the temperature of the regenerative thermal oxidizer combustion chamber exhaust gases shall be maintained equal to or greater than the average temperature achieved during the performance test.

7.9 Hood or enclosure monitor for Unit #4d and #4e

In accordance with ARSD 74:36:07:21, as referenced to 40 CFR § 60.445(g), the owner or operator shall install, calibrate, maintain, and operate a monitoring device or monitoring devices that continuously indicates the hood or enclosure used to capture fugitive volatile organic compound emissions from the M4 and M6 coater lines are operating. This permit condition is not required if the owner or operator can demonstrate that the hood or enclosure system is interlocked with the M4 and M6 coater lines' oven recirculation air system.

7.10 Monthly coating records

In accordance with ARSD 74:36:07:21, as referenced to 40 CFR § 60.445(a) and (d), the owner or operator shall maintain a monthly record of all coatings used by Units #4d, #4e, #17, and #18. In addition, the owner or operator shall maintain the results of the reference test method specified in permit condition 7.11 or the manufacturer's formulation data used for determining the volatile organic compound content of these coatings.

The owner or operator shall calculate the amount of volatile organic compounds processed through Unit #17 and Unit #18 when the appropriate coater is operational on a monthly basis. A 12-month rolling total for Units #17 and #18 shall be calculated every month using that month's value and the previous 11 months' values. The volatile organic compound processed through Unit #17 and #18 shall be based on the amount of products used each month and the composition of the product based on the material safety data sheets, manufacturer supplied formulation data, EPA approved test method data, or a method approved by the Secretary.

7.11 Volatile organic compound content

In accordance with ARSD 74:36:07:21, as referenced to 40 CFR § 60.446(a), the owner or operator shall determine the volatile organic compound per unit of coating solids applied. The volatile organic compound per unit of coating solids applied shall be determined by 40 CFR Part 60, Appendix A, Reference Method 24 or by manufacturers' formulation data. In the event of any inconsistency between a Method 24 test and manufacturers' formulation data, the Method 24 test

will govern. For Method 24, the coating sample must be a one liter sample taken into a one liter container at a point where the sample will be representative of the coating applied to the coater line web substrate.

7.12 Performance test methods

In accordance with ARSD 74:36:07:21, as referenced to 40 CFR § 60.446(b), if a performance test is required to demonstrate compliance with permit condition 7.1, the owner or operator shall use 40 CFR Part 60, Appendix A, Method 25 to determine the volatile organic compound concentration, in parts per million by volume, of each effluent gas stream entering and exiting the regenerative thermal oxidizer. The owner or operator shall use 40 CFR Part 60, Appendix A, Methods 1, 2, 3, and 4 to determine the sampling location, volumetric flow rate, molecular weight, and moisture of all sampled gas streams. For Method 25, the sampling time for each of the three runs must be at least one hour. The minimum sampling volume must be 0.003 dry standard cubic meters. The Secretary may approve shorter sampling times or smaller volumes, when necessitated by process variables or other factors.

7.13 Performance test procedures

In accordance with ARSD 74:36:07:21, as referenced to 40 CFR § 60.444(c), if a performance test is required to demonstrate compliance with permit condition 7.1, the owner or operator shall conduct the performance test as follows:

- The performance of the regenerative thermal oxidizer shall be determined by averaging the results of the three test runs;
- 2. Determine prior to each test run the weighted average mass of volatile organic compound per mass of coating solids applied being used for the M4 and M6 coater lines. The weighted average shall be determined as specified in permit condition 7.4. In this application the quantities of W_{oi}, W_{si}, and M_{ci} shall be determined for the time period of each test run;
- 3. Calculate the required percent overall volatile organic compound emission reduction as specified in permit condition 7.5; and
- 4. Determine the percent overall volatile organic compound emission reduction of the regenerative thermal oxidizer by Equation 7-3 and the following procedures:
 - The owner or operator shall construct the overall volatile organic compound emission reduction system so that all volumetric flow rates and total volatile organic compound emissions can be accurately determined by the applicable test methods and procedures;
 - b. The owner or operator shall construct a temporary total enclosure around the M4 and M6 coating line applicator and flash off area during the performance test for the purpose of capturing fugitive volatile organic compound emissions. If a permanent total enclosure exists and the owner or operator demonstrates the enclosure totally captures fugitive volatile organic compound emissions, then no additional enclosure is required; and
 - c. Compliance with permit condition 7.1 is demonstrated where the value of R is greater than or equal to the value of R_q calculated in accordance with permit condition 7.5.

Equation 7-3 - Overall volatile organic compound emission reduction

$$R = \frac{\sum_{i=1}^{n} Q_{bi} C_{bi} - \sum_{j=1}^{m} Q_{aj} C_{aj}}{\sum_{i=1}^{n} Q_{bi} C_{bi} + \sum_{k=1}^{p} Q_{jk} C_{jk}} x100$$

Where:

- C_{aj} = the concentration of volatile organic compound (carbon equivalent) in each gas stream, j, exiting the emission control device, in parts per million by volume;
- C_{bi} = the concentration of volatile organic compound (carbon equivalent) in each gas stream, i, entering the emission control device, in parts per million by volume;
- C_{fk} = the concentration of volatile organic compound (carbon equivalent) in each gas stream, k, emitted directly to the atmosphere, in parts per million by volume;
- Q_{aj} = the volumetric flow rate of each effluent gas stream, j, exiting the emission control device, in dry standard cubic meters per hour;
- Q_{bi} = the volumetric flow rate of each effluent gas stream, i, entering the emission control device, in dry standard cubic meters per hour;
- Q_{fk} = the volumetric flow rate of each effluent gas stream, k, emitted directly to the atmosphere, in dry standard cubic meters per hour; and
- R = the overall volatile organic compound emission reduction achieved for a calendar month (in percent).

7.14 Quarterly report for VOCs

In accordance with ARSD 74:36:07:21, as referenced to 40 CFR § 60.447(b) and (c), the owner or operator shall submit a quarterly report to the Secretary. The quarterly report shall contain the following information:

- Name of facility, permit number, reference to this permit condition, identifying the submittal
 as a quarterly report and calendar dates covered in the reporting period;
- 2. The number of months in the reporting period that the volatile organic compound emission limit specified in permit condition 7.1, 7.2, and/or 7.3 was exceeded. If no such exceedances occurred, the owner or operator shall state this in the report;
- 3. The number of 3-hour periods during which the average temperature of the regenerative thermal oxidizer is more than 28 degrees Celsius (50 degrees Fahrenheit) below the average temperature determined by the most recent performance test. If no exceedances occur, the owner or operator shall state this in the report; and
- 4. Identify the average temperature determined by the most recent performance test.

Quarterly reports must be postmarked no later than 30 days after the end of the reporting period.

8.0 Demonstrating Compliance – Capture and Control Device System

8.1 Compliance using a capture and control device system

In accordance with ARSD 74:36:08:29, as referenced to 40 CFR § 63.3320(c), if the owner or operator demonstrates compliance with permit condition 6.12 using a capture and control device

system, the owner or operator must demonstrate compliance with permit condition 8.2, 8.3, 8.4, or 8.5 and comply with the applicable permit conditions in this chapter.

8.2 Demonstrate 95 percent control efficiency

In accordance with ARSD 74:36:08:29, as referenced to 40 CFR § 63.3370(a)(5)(i) and (e)(2), the owner or operator shall demonstrate compliance with permit condition 6.12(1) by operating a capture and control device system with an overall organic hazardous air pollutant control efficiency of at least 95 percent for each month. Compliance is demonstrated by the following procedures in permit condition 8.6.

8.3 Demonstrate overall organic HAP rate of coating solids

In accordance with ARSD 74:36:08:29, as referenced to 40 CFR § 63.3370(a)(5)(ii), (a)(6)(i), and (f), the owner or operator shall demonstrate compliance with permit condition 6.12(3) by limiting the overall organic hazardous air pollutant emission rate to no more than 0.20 kilograms organic hazardous air pollutant emitted per kilograms of coating solids applied as determined on a monthly average "as applied" basis. Compliance is demonstrated by the following procedures in permit condition 8.6.

8.4 Demonstrate overall organic HAP rate of coating materials

In accordance with ARSD 74:36:08:29, as referenced to 40 CFR § 63.3370(a)(5)(iii), (a)(6)(ii), and (g), the owner or operator shall demonstrate compliance with permit condition 6.12(2) by limiting the overall organic hazardous air pollutant emission rate to no more than 0.04 kilograms organic hazardous air pollutant emitted per kilograms of coating material applied as determined on a monthly average "as applied" basis. Compliance is demonstrated by the following procedures in permit condition 8.6.

8.5 Monthly organic HAP emission limit

In accordance with ARSD 74:36:08:29, as referenced to 40 CFR § 63.3370(a)(5)(iv), (a)(6)(iii), and (h), the owner or operator shall demonstrate compliance with permit condition 6.12 by operating a capture and control device system and limit the monthly organic hazardous air pollutant emissions to less than the allowable emissions as calculated in accordance with permit condition 8.8. Compliance is demonstrated by the following procedures in permit condition 8.6.

8.6 Calculating organic HAP emissions

In accordance with ARSD 74:36:08:29, as referenced to 40 CFR § 63.3370(n)(3) and (4), the owner or operator shall calculate organic hazardous air pollutant emissions according to the following procedures:

- To demonstrate compliance through performance tests of capture and control device
 efficiency, continuous monitoring of capture system, and continuous parameter monitoring
 systems for the regenerative thermal oxidizer used to control emissions from one or more web
 coatings, the owner or operator must:
 - a. Monitor the operating parameter(s) in accordance with permit condition 8.11 to ensure control device efficiency;

- b. For each capture system delivering emissions to the regenerative thermal oxidizer, monitor the operating parameter(s) established in accordance with permit condition 8.11; and
- c. Determine the organic hazardous air pollutant emissions from those web coating lines served by each capture system delivering emission to the regenerative thermal oxidizer in accordance with permit condition 8.7.
- For uncontrolled coating lines, the owner or operator shall determine the organic hazardous air
 pollutant applied on those web coating lines using Equation 9-7. The organic hazardous air
 pollutant emitted from an uncontrolled web coating line is equal to the organic hazardous air
 pollutant applied on that web coating line;
- 3. Convert the information obtained in paragraph (1) and (2) of this permit condition into units of the selected compliance option in permit condition 8.2, 8.3, 8.4, or 8.5 using the appropriate calculation procedures:
 - a. Calculate the organic hazardous air pollutant emissions for the month by summing all
 organic hazardous air pollutant emissions calculated according to paragraph (1) and (2) of
 this permit condition;
 - b. If demonstrating compliance on the basis of organic hazardous air pollutant emission rate based on coating solids applied or emission of less than the calculated allowable organic hazardous air pollutant, the owner or operator must determine the coating solids content of each coating material applied during the month following the procedures in permit condition 9.5;
 - Calculate the organic hazardous air pollutant emission rate based on coating solids applied for each month using Equation 8-1;

Equation 8-1 - Organic hazardous air pollutant emission rate based on coating solids applied

$$L = \frac{H_e}{\sum_{i=1}^p C_{si} M_i + \sum_{i=1}^q C_{sij} M_{ij}}$$

Where:

- L = Mass organic hazardous air pollutant emitted per mass of coating solids applied, kilograms/kilograms;
- H_e = Total monthly organic hazardous air pollutant emitted, kilograms;
- p = Number of different coating materials applied in a month;
- C_{si} = Coating solids content of coating material, i, expressed as a mass fraction, kilograms/kilograms;
- M_i = Mass of "as purchased" coating material, i, applied in a month, kilograms;
- q = Number of different materials added to the coating material;
- C_{sij} = Coating solids content of material, j, added to "as purchased" coating material, i, expressed as a mass-fraction, kilograms/kilograms; and
- M_{ij} = Mass of material, j, added to "as purchased" coating material, i, in a month, kilograms.
- d. Calculate the organic hazardous air pollutant emission rate based on material applied using Equation 8-2;

Equation 8-2 - Organic hazardous air pollutant based on materials applied

$$S = \frac{H_e}{\sum_{i=1}^p M_i + \sum_{j=1}^q M_{ij}}$$

Where:

- S = Mass organic hazardous air pollutant emitted per mass of material applied, kilograms/kilograms;
- H_e = Total monthly organic hazardous air pollutant emitted, kilograms;
- p = Number of different coating materials applied in a month;
- M_i = Mass of "as purchased" coating material, i, applied in a month, kilograms;
- q = Number of different materials added to the coating material; and
- M_{ij} = Mass of material, j, added to "as purchased" coating material, i, in a month, kilograms.
- 4. Compliance with permit condition 6.12 is demonstrated for the month if all operating parameters required to be monitored under paragraph (1) and (2) of this permit condition were maintained at the values established in accordance with permit conditions 8.10 and 9.9; and
- 5. The owner or operator complies with one of the following:
 - a. The total mass of organic hazardous air pollutants emitted based on coating solids applied is no more than 0.20 kilograms organic hazardous air pollutants per kilogram coating solids applied;
 - b. The total mass of organic hazardous air pollutants emitted based on material applied is no more than 0.04 kilograms organic hazardous air pollutants per kilogram material applied;
 - c. The total mass of organic hazardous air pollutants emitted during the month is less than the calculated allowable organic hazardous air pollutant as determined using permit condition 8.8; or
 - d. The total mass of organic hazardous air pollutants emitted was not more than five percent of the total mass of organic hazardous air pollutants applied for the month. The total mass of organic hazardous air pollutants applied by the affected source in the month must be determined using Equation 9-7.

8.7 <u>Determine organic HAP emissions from intermittent and never controlled work stations</u>

In accordance with ARSD 74:36:08:29, as referenced to 40 CFR § 63.3370(k)(1)(i) through (iii), and (v) and (o), the owner or operator shall demonstrate compliance using a regenerative thermal oxidizer by performing the following procedures:

- 1. Demonstrate initial compliance through performance tests of capture efficiency and control device efficiency and continuing compliance through continuous monitoring of capture system and control device operating parameters as specified below:
 - a. Determine the regenerative thermal oxidizer destruction efficiency;
 - b. Determine the capture system capture efficiency in accordance with permit condition 8.12;

- Whenever a web coating line is operated, continuously monitor the operating parameters established in accordance with permit condition 8.10 to ensure capture and control efficiency;
- d. If demonstrating compliance on the basis of organic hazardous air pollutant emission rate based on coating solids applied or emission of less than the calculated allowable organic hazardous air pollutant, determine the coating solids content of each coating material applied during the month following the procedure in permit condition 9.5; and
- e. Determine organic hazardous air pollutant emissions for intermittently controlled and never controlled work stations by:
 - Determine the sum of the mass of all coating materials "as applied" on intermittently controlled work stations operating in bypass mode and the mass of all coating materials "as applied" on never controlled work stations during the month;
 - Determine the sum of the mass of all coating materials "as applied" on intermittently controlled work stations operating in a controlled mode and the mass of all coating materials applied on always controlled work stations during the month; and
 - Calculate the organic hazardous air pollutants emitted during the month using Equation 8-3.

Equation 8-3 - Calculating organic hazardous air pollutant emissions

$$H_{e} = \left[\sum_{i=1}^{p} M_{Ci} C_{ahi}\right] \left[1 - \frac{R}{100}\right] + \left[\sum_{i=1}^{p} M_{Bi} C_{ahi}\right] - M_{vret}$$

Where

- H_e = Total monthly organic hazardous air pollutants emitted, kilogram;
- p = Number of different coating materials applied in a month;
- M_{ci} = Sum of the mass of coating material, i, "as applied" on intermittently controlled work stations operating in controlled mode and the mass of coating material, i, "as applied" on always controlled work stations, in a month, kilogram;
- C_{ahi} = Monthly average, "as applied", organic hazardous air pollutant content of coating material, i, expressed as a mass fraction, kilogram/kilogram;
- R = Overall organic hazardous air pollutant control efficiency, percent;
- M_{Bi} = Sum of the mass of coating material, i, "as applied" on intermittently controlled work stations operating in bypass mode and the mass of coating material, i, "as applied" on never controlled work stations, in a month, kilogram;
- C_{ahi} = Monthly average, "as applied", organic hazardous air pollutant content of coating material, i, expressed as a mass fraction, kilogram/kilogram; and
- M_{vret} = Mass of volatile matter retained in the coated web after curing or drying, or
 otherwise not emitted to the atmosphere, kilogram. The value of this term will be zero in
 all cases except where the owner or operator choose to take into account the volatile matter
 retained in the coated web or otherwise not emitted to the atmosphere as determined by
 permit condition 8.10.

8.8 Determining monthly allowable organic HAP emissions

In accordance with ARSD 74:36:08:29, as referenced to 40 CFR § 63.3370(l), the owner or operator shall use this permit condition to determine the monthly allowable organic hazardous air

pollutant emissions for demonstrating compliance with permit condition 8.5 and 9.9. The owner or operator shall determine the amount of coating material applied at greater than or equal to 20 mass percent coating solids and the amount of coating material applied at less than 20 mass percent coating solids. The allowable organic hazardous air pollutant limit is then calculated based on coating material applied at greater than or equal to 20 mass percent coating solids if complying with 0.2 kilogram organic hazardous air pollutant per kilogram coating solids or coating material applied at less than 20 mass percent coating solids if complying with 4 mass percent organic hazardous air pollutant. The calculating procedures are as follows:

- 1. Determine the "as purchased" mass of each coating material applied each month;
- 2. Determine the "as purchased" coating solids content of each coating material applied each month in accordance with permit condition 9.9;
- 3. Determine the "as purchased" mass fraction of each coating material which was applied at 20 mass percent or greater coating solids content on an "as applied" basis;
- Determine the total mass of each solvent, diluent, thinner, or reducer added to coating
 materials which were applied at less than 20 mass percent coating solids content on an "as
 applied" basis each month; and
- 5. Calculate the monthly allowable organic hazardous air pollutant emissions using Equation 8-4.

Equation 8-4 - Calculate monthly allowable organic hazardous air pollutant emissions

$$H_a = 0.20 \left[\sum_{i=1}^{p} M_i G_i C_{si} \right] + 0.04 \left[\sum_{i=1}^{p} M_i (1 - G_i) + \sum_{j=1}^{q} M_{L_j} \right]$$

Where

- H_a = Monthly allowable organic hazardous air pollutant emissions, kilograms;
- p = Number of different coating materials applied in a month;
- M_i = Mass of "as purchased" coating material, i, applied in a month, kilograms;
- G_i = Mass fraction of each coating material, i, which was applied at 20 mass percent or greater coating solids content, on an "as applied" basis, kilograms/kilograms;
- C_{si} = Coating solids content of coating material, i, expressed as a mass fraction, kilograms/kilograms;
- q = Number of different materials added to the coating material; and
- M_{Lj} = Mass of non-coating-solids-containing coating materials which were applied at less than 20 mass percent coating solids content, on an "as applied" basis, in a month, kilograms.

8.9 Operating limits - regenerative thermal oxidizer and capture systems

In accordance with ARSD 74:36:08:29, as referenced to 40 CFR § 63.3321(a), the owner or operator shall meet the following operating limits for the regenerative thermal oxidizer and capture systems:

The average combustion temperature of the regenerative thermal oxidizer in any 3-hour period
must not fall below the combustion temperature limit established in permit condition 8.12. The
combustion temperature data shall be collected in accordance with permit condition 8.11(1)
and (2) and the data shall be reduced to 3-hour block averages; and

The owner or operator shall submit a monitoring plan that identifies operating parameters to be monitored in accordance with permit condition 8.11 and conduct the monitoring required in the monitoring plan.

The average combustion temperature and operating parameters shall be met at all times once the operating limits have been established during the initial performance test or subsequent performance tests that demonstrate compliance with permit condition 6.12(1).

8.10 Bypass and coating use monitoring

In accordance with ARSD 74:36:08:29, as referenced to 40 CFR § 63.3350(a)(1), (b), and (c), the owner or operator shall monitor bypasses of the regenerative thermal oxidizer and the mass of each coating material applied at web coating lines with intermittently controlled work stations during any such bypass. The owner or operator must demonstrate that any coating material applied on a never controlled work station or an intermittently controlled work station operated in bypass mode is allowed in accordance with permit condition 8.6 and 8.7. The bypass monitoring must be conducted using at least one of the following procedures for each work station and associated dryer:

- 1. The owner or operator shall install, calibrate, maintain, and operate according to the manufacturer' specifications a flow control position indicator that provides a record indicating if the exhaust stream from each intermittently controlled coater line was directed to the regenerative thermal oxidizer or was diverted from the regenerative thermal oxidizer. The time and flow control position must be recorded at least once per hour as well as every time the flow direction is changed. A flow control position indicator must be installed at the entrance to any bypass line that could divert the exhaust stream away from the regenerative thermal oxidizer to the atmosphere;
- 2. The owner or operator shall secure any bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism must be performed at least once every month to ensure that the valve or damper is maintained in the closed position, and the exhaust stream is not diverted through the bypass line
- 3. The owner or operator shall ensure that any bypass line valve or damper is in the closed position through continuous monitoring of valve position when the intermittently controlled coater line is in operation. The monitoring system must be inspected at least once every month to verify that the monitor will indicate valve position; and/or
- 4. The owner or operator shall use an automatic shutdown system in which the web coating line is stopped when flow is diverted away for the regenerative thermal oxidizer to any bypass line when the regenerative thermal oxidizer is in operation. The automatic system must be inspected at least once every month to verify that it will detect diversion of flow and would shut down operations in the event of such a diversion.

8.11 Continuous parameter monitoring system

In accordance with ARSD 74:36:08:29, as referenced to 40 CFR § 63.3350(a)(3) and (4), (b), (e) and (f), the owner or operator shall install, operate, and maintain a continuous parameter monitoring system that meets the following requirements:

- Install, calibrate, maintain, and operate temperature monitoring equipment according to the
 manufacturer's specifications. The calibration of the chart recorder, data logger, or
 temperature indicator must be verified every three months or the chart recorder, data logger, or
 temperature indicator must be replaced. In addition, the owner or operator must replace the
 chart recorder, data logger, or temperature indicator if the equipment cannot be calibrated
 properly;
- 2. Install, calibrate, operate, and maintain a continuous temperature recorder. The continuous temperature recorder must have an accuracy of ±1 percent of the temperature being monitored in degrees Celsius, or ±1 degree Celsius, whichever is greater. The thermocouple or temperature sensor must be installed in the combustion chamber at a location in the combustion zone;
- 3. Each continuous parameter monitoring system must complete a minimum of one cycle of operation for each successive 15-minute period. A minimum of four equally spaced successive cycles of continuous parameter monitoring system operation is required for a valid hour of data;
- 4. Valid hourly data is required from at least 90 percent of the hours during which the process operated;
- 5. The hourly average of all recorded readings must be determined in the following manner:
 - a. To calculate a valid hourly value, at least three of four equally spaced data values from the hour from a continuous monitoring system that is not out-of-control; or
 - b. Provided all of the reading recorded in accordance with section (4) of this permit condition clearly demonstrate continuous compliance with the standard that applies, then the hourly average of all the reading is not required.
- 6. Determine the rolling 3-hour average of all recorded readings for each operating period. To calculate the average for each 3-hour averaging period, at least two of the three of the hourly average for that period using on average values that are based on valid data;
- 7. Record the results of each inspection, calibration, and validation check of the continuous parameter monitoring system;
- 8. At all time, the monitoring system must be maintained in proper working order including, but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment;
- 9. Except for monitoring malfunctions, associated repairs, or required quality assurance or control activities, including calibration checks, or required zero and span adjustment, all monitoring shall occur at all times that the unit is operating. Data recorded during monitoring malfunctions, associated repairs, out-of-control periods, or required quality assurance or control activities shall not be used for purposes of calculating emission concentration and percent reductions. All valid data collected during all other periods shall be used in assessing compliance of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions;
- 10. Any averaging period for which not valid monitoring data and such data are required constitutes a deviation and the owner or operator must notify the Secretary in accordance with permit condition 5.10; and
- 11. A site specific monitoring plan shall be developed and maintained for each capture system that meets the following requirements:

- a. Identify the operating parameter to be monitored to ensure that the capture efficiency determined during the initial compliance test is maintained;
- b. Explain why this parameter is appropriate for demonstrating ongoing compliance; and
- c. Identify the specific monitoring procedures;
- d. The monitoring plan must be specify the operating parameter value or range of values that demonstrate compliance with the emission standard in permit condition 6.12(1). The specified operating parameter value or range of values must represent the condition present when the capture system is being properly operated and maintained;
- e. All capture system monitoring must be conducted according to the monitoring plan;
- f. Any deviation from the operating parameter value or range of values which are monitored according to the monitoring plan will be considered a deviation from the operating limit and must be reported to the Secretary in accordance with permit condition 5.10; and
- g. The monitoring plan must be reviewed and updated on an annual basis.

8.12 Regenerative thermal oxidizer operating limits

In accordance with ARSD 74:36:08:29, as referenced to 40 CFR § 63.3360(e)(3), the owner or operator shall establish the operating limits for the regenerative thermal oxidizer during the performance test. The owner or operator must monitor and record the combustion temperature at least once every 15 minutes during each of the test runs. The combustion temperature shall be monitored in the firebox of the regenerative thermal oxidizer or immediately downstream of the firebox before any substantial heat exchange occurs. The owner or operator shall use the data collected during the performance test to calculate and record the average combustion temperature maintained during the performance test. The average combustion temperature is the minimum operating limit for the regenerative thermal oxidizer.

8.13 Capture efficiency determination

In accordance with ARSD 74:36:08:29, as referenced to 40 CFR § 63.3360(f), the owner or operator shall determine the capture efficiency using the following procedures:

- The owner or operator may assume that the capture efficiency equals 100 percent if the
 capture system is a permanent total enclosure. The owner or operator must confirm that the
 capture system is a permanent total enclosure by demonstrating that it meets the requirements
 of Section 6 of 40 CFR Part 51, Appendix M, Method 204 and that all exhaust gases from the
 enclosure are delivered to a control device;
- 2. The owner or operator may determine the capture efficiency according to the protocols for testing with temporary total enclosures that are specified in 40 CFR Part 51, Appendix M, Methods 204 and 204A through F. The owner or operator may exclude never controlled work stations from such capture efficiency determinations; or
- 3. The owner or operator may use any capture efficiency protocol and test methods that satisfy the criteria of either the Data Quality Objective or the Lower Confidence Limit approach as described in 40 CFR Part 63, Subpart KK, Appendix A. The owner or operator may exclude never controlled work stations from such capture efficiency determinations.

9.0 Demonstrating Compliance – Mass of Coating Material or Coating Solids

9.1 Demonstrating compliance with permit condition 6.12(2) or (3)

In accordance with ARSD 74:36:08:29, as referenced to 40 CFR § 63.3320(c), if the owner or operator decides to demonstrate compliance with permit condition 6.12 by maintaining organic hazardous air pollutant emissions to no more than four percent of the mass of coating material applied for each month or no more than 20 percent of the mass of coating solids applied for each month, the owner or operator must comply with all the permit conditions in this chapter.

9.2 Determine organic hazardous air pollutant content "as purchased"

In accordance with ARSD 74:36:08:29, as referenced to 40 CFR § 63.3360(a)(1) and (c)(1), (2), and (3), the owner or operator shall determine the organic hazardous air pollutant mass fraction of each coating material "as purchased" using one of the following procedures:

- 1. The owner or operator may test the coating material in accordance with 40 CFR Part 63, Appendix A, Method 311. Method 311 may be performed by the manufacturer of the coating material and the results provided to the owner or operator. The organic hazardous air pollutant content must be calculated according to the following criteria:
 - a. Include each organic hazardous air pollutant determined to be present at greater than or equal to 0.1 mass percent for Occupational Safety and Health Administration (OSHA) defined carcinogens as specified in 29 CFR § 1910.1200(d)(4) and greater than or equal to 1.0 mass percent for other organic hazardous air pollutant compounds;
 - b. Express the mass fraction of each organic hazardous air pollutant included in (a) as a value truncated to four places after the decimal point; and
 - c. Calculate the total mass fraction of organic hazardous air pollutant in the tested material by summing the counted individual organic hazardous air pollutant mass fractions and truncating the result to three places after the decimal point;
- 2. The owner or operator may test the coatings by determining the volatile organic content as mass fraction of nonaqueous volatile matter and use it as a substitute for organic hazardous air pollutant using 40 CFR Part 60, Appendix A, Method 24. The Method 24 determination may be performed by the manufacturer of the coating and the results provided to the owner or operator;
- 3. The owner or operator may use the formulation data to determine the organic hazardous air pollutant mass fraction of a coating material. Formulation data may be provided to the owner or operator by the manufacturer of the material. In the event of an inconsistency between Method 311 test data and the owner's or operator's formulation data, and the Method 311 test value is higher, the Method 311 data will govern. Formulation data may be used provided that the information represents all organic hazardous air pollutant present at a level equal to or greater than 0.1 percent for OSHA defined carcinogens as specified in 29 CFR § 1910.1200(d)(4) and equal to or greater than 1.0 percent for other organic hazardous air pollutant compounds in any raw material used; or
- 4. The owner or operator may submit an alternative test method for determining the organic hazardous air pollutant mass fraction of a coating material. The alternative test method must be approved in writing by EPA in accordance with 40 CFR § 63.7(f) and the Secretary. The

recovery efficiency of the test method must be determined for all of the target organic hazardous air pollutants and a correction factor, if necessary, must be determined and applied.

- 9.3 <u>Determining "as purchased" volatile organic content and coating solids content</u>
 In accordance with ARSD 74:36:08:29, as referenced to 40 CFR § 63.3360(a)(1) and (d)(1) and (2), the owner or operator shall determine the volatile organic content and coating solids content of each coating material "as purchased" using one of the following procedures:
- The owner or operator may determine the volatile organic content and coating solids mass
 fraction of each coating applied using 40 CFR Part 60, Appendix A, Method 24. The Method
 24 determination may be performed by the manufacturer of the coating and the results
 provided to the owner or operator. If the values cannot be determined using Method 24, the
 owner or operator must submit an alternative technique for determining these values that must
 be approved by EPA and the Secretary; or
- 2. The owner or operator may use the formulation data to determine the volatile organic content and the coating solids content of a coating material. Formulation data may be provided to the owner or operator by the manufacturer of the material. In the event of an inconsistency between Method 24 test data and the owner's or operator's formulation data, and the Method 24 test value is higher, the Method 24 data will govern.
- 9.4 Calculate "as applied" organic hazardous air pollutant mass fraction
 In accordance with ARSD 74:36:08:29, as referenced to 40 CFR § 63.3360(c)(4), the owner or operator shall calculate the "as applied" organic hazardous air pollutant mass fraction of each coating material using one of the following procedures:
- If the "as purchased" coating material is applied to the web without any solvent or other material added, then the "as applied" organic hazardous air pollutant mass fraction is equal to the "as purchased" organic hazardous air pollutant fraction; or
- If the "as purchased" coating materials are reduced, thinned, or diluted prior to application, the
 "as applied" organic hazardous air pollutant mass fraction shall be calculated using Equation 91.

Equation 9-1 - Calculating "as applied" organic hazardous air pollutant mass fraction

$$C_{ahi} = \frac{\left(C_{hi}M_{i} + \sum_{j=1}^{q} C_{hij}M_{ij}\right)}{M_{i} + \sum_{j=1}^{q} M_{ij}}$$

Where

- C_{ahi} = Monthly average, "as applied", organic hazardous air pollutant content of coating material, i, expressed as a mass fraction, kilograms/kilograms;
- C_{hi} = Organic hazardous air pollutant content of coating material, i, "as purchased", expressed as a mass fraction, kilograms/kilograms;
- M_i = Mass of "as purchased" coating material, i, applied in a month, kilograms.
- q = number of different materials add to the coating material;

- C_{hij} = Organic hazardous air pollutant content of material, j, added to "as purchased" coating material, i, expressed as mass fraction, kilograms/kilograms; and
- M_{ij} = Mass of material, j, added to "as purchased" coating material, i, in a month, kilograms.

9.5 <u>Calculate "as applied" volatile organic content and coating solids content</u>
In accordance with ARSD 74:36:08:29, as referenced to 40 CFR § 63.3360(d)(4), the owner or operator shall calculate the volatile organic content and coating solids content of each coating

operator shall calculate the volatile organic content and coating solids content of each coating material "as applied" using one of the following procedures:

- If the "as purchased" coating material is applied to the web without any solvent or other material added, then the "as applied" volatile organic content and coating solids content are equal to the "as purchased" volatile organic content and coating solids content; or
- If the "as purchased" coating materials are reduced, thinned, or diluted prior to application, the
 "as applied" volatile organic content shall be calculated using Equation 9-2 and the "as applied"
 coating solids content shall be calculated using Equation 9-3.

Equation 9-2 - Calculating "as applied" volatile organic content

$$C_{avi} = \frac{\left(C_{vi}M_{i} + \sum_{j=1}^{q} C_{vij}M_{ij}\right)}{M_{i} + \sum_{j=1}^{q} M_{ij}}$$

Where:

- C_{avi} = Monthly average, as applied, volatile organic content of coating material, i, expressed as a mass fraction, kilograms/kilograms;
- C_{vi} = Volatile organic content of coating material, i, expressed as a mass fraction, kilograms/kilograms;
- M_i = Mass of as purchased coating material, i, applied in a month, kilograms;
- q = number of different materials added to the coating material;
- C_{vij} = Volatile organic content of material, j, added to as purchased coating material, i, expressed as mass fraction, kilograms/kilograms; and
- M_{ii} = Mass of material, j, added to as purchased coating material, i, in a month, kilograms.

Equation 9-3 - Calculating "as applied" coatings solid content

$$C_{asi} = \frac{\left(C_{si}M_{i} + \sum_{j=1}^{q} C_{sij}M_{ij}\right)}{M_{i} + \sum_{j=1}^{q} M_{ij}}$$

Where:

 C_{asi} = Monthly average, as applied, coating solids content of coating material, i, expressed as a mass fraction, kilograms/kilograms;

- C_{si} = Coating solids content of coating material, i, as purchased, expressed as a mass fraction, kilograms/kilograms;
- M_i = Mass of as purchased coating material, i, applied in a month, kilograms;
- q = Number of different materials added to the coating material;
- C_{sij} = Coating solids content of material, j, added to as purchased coating material, i, expressed as mass fraction, kilograms/kilograms; and
- M_{ij} = Mass of material, j, added to as purchased coating material, i, in a month, kilograms.

9.6 Volatile matter retained in the coated web or otherwise not emitted

In accordance with ARSD 74:36:08:29, as referenced to 40 CFR § 63.3360(g), the owner or operator may choose to take into account the mass of volatile matter retained in the coated web after curing or drying or otherwise not emitted to the atmosphere. If the owner or operator chooses this option, the owner or operator must develop a testing protocol to determine the mass of volatile matter retained in the coated web or otherwise not emitted to the atmosphere and submit this protocol to EPA and the Secretary for approval. This protocol must be submitted with the site-specific test plan. If compliance is demonstrated by permit condition 9.8 or 9.9, then the test protocol must determine the mass of organic hazardous air pollutants retained in the coated web or otherwise not emitted to the atmosphere. Otherwise, compliance must be demonstrated by using the volatile organic matter content as a surrogate for the hazardous air pollutant content of the coatings.

- 9.7 Demonstrating compliance using "as purchased" compliant coating materials
 In accordance with ARSD 74:36:08:29, as referenced to 40 CFR § 63.3370(a)(1) and (b), the
 owner or operator may demonstrate compliance with the emission limits in permit condition
 6.12(2) or (3) using "as purchased" compliant coating materials. The owner or operator is in
 compliance if each coating material applied during the month contains no more than 0.04 mass
 fraction organic hazardous air pollutants or 0.2 kilograms organic hazardous air pollutant per
 kilogram of coating solids on an "as purchased" basis. The owner or operator shall determine the
 organic hazardous air pollutant content of each "as purchased" coating material using the methods
 in permit conditions 9.2.
- 9.8 Demonstrate compliance using "as applied" compliant coating materials
 In accordance with ARSD 74:36:08:29, as referenced to 40 CFR § 63.3370(a)(2) and (c), the owner or operator may demonstrate compliance with the emission limits in permit condition 6.12(2) or (3) using "as applied" compliant coating materials. The owner or operator must demonstrate compliance with "as applied" coating materials by one of the following methods:
- 1. Each coating material applied shall not exceed 0.04 kilograms organic hazardous air pollutants per kilogram coating material as determined in accordance with following methods:
 - Determine the organic hazardous air pollutant content or volatile organic content of each coating material applied on an "as purchased" basis in accordance with permit conditions 9.2;
 - b. Calculate the "as applied" organic hazardous air pollutant content of each coating using permit condition 9.4; or
 - Calculate the "as applied" volatile organic content of each coating material using permit condition 9.5;

- Each coating material "as applied" shall not exceed 0.2 kilograms organic hazardous air pollutants per kilogram coating solids as determined in accordance with the following methods:
 - Determine the "as applied" coating solids content of each coating material using permit condition 9.5; or
 - Calculate the "as applied" organic hazardous air pollutant to coating solids ratio using Equation 9-4.

Equation 9-4 - Calculating "as applied" organic hazardous air pollutant coating solids ratio

$$H_{si} = \frac{C_{ahi}}{C_{asi}}$$

Where:

- H_{si} = As applied, organic hazardous air pollutant to coating solids ratio of coating material, i:
- C_{ahi} = Monthly average, as applied, organic hazardous air pollutant content of coating material, i, expressed as a mass fraction, kilograms/kilograms.
- C_{asi} = Monthly average, as applied, coating material, i, expressed as a mass fraction, kilograms/kilograms.
- The monthly average "as applied" organic hazardous air pollutant content of all coating materials applied shall not exceed 0.04 kilograms organic hazardous air pollutants per kilogram coating material applied as determined by Equation 9-5; or

Equation 9-5 - Monthly average organic hazardous air pollutant content

$$H_{L} = \frac{\sum_{i=1}^{p} C_{hi} M_{i} + \sum_{j=1}^{q} C_{hij} M_{ij} - M_{vret}}{\sum_{j=1}^{p} M_{i} + \sum_{j=1}^{q} M_{ij}}$$

Where:

- H_L = Monthly average, as applied, organic hazardous air pollutant content of all coating
 materials applied, expressed as kilograms organic hazardous air pollutant per kilograms of
 coating material applied, kilograms/kilograms;
- p = Number of different coating materials applied in a month;
- C_{hi} = Organic hazardous air pollutant content of coating materials, i, as purchased, expressed as a mass fraction, kilograms/kilograms.
- M_i = Mass of as purchased coating material, i, applied in a month, kilograms;
- q = Number of different materials added to the coating material;
- C_{hij} = Organic hazardous air pollutant content of material, j, added to as purchased coating material, i, expressed as a mass fraction, kilograms/kilograms;
- M_{ij} = Mass of material, j, added to as purchased coating material, i, in a month, kilograms;
 and
- M_{vret} = Mass of volatile matter retained in the coated web after curing or drying, or otherwise not emitted to the atmosphere, kilograms. The value of this term will be zero in

all cases except where the owner or operator chooses to take into account the volatile matter retained in the coated web or otherwise not emitted to the atmosphere.

4. The monthly average "as applied" organic hazardous air pollutant content on the basis of coating solids applied of all coating materials applied shall not exceed 0.2 kilograms organic hazardous air pollutants per kilogram coating solids as determined by Equation 9-6.

Equation 9-6 - Monthly average organic hazardous air pollutant coating solids

$$H_{S} = \frac{\sum_{i=1}^{p} C_{hi} M_{i} + \sum_{j=1}^{q} C_{hij} M_{ij} - M_{vret}}{\sum_{i=1}^{p} C_{Si} M_{i} + \sum_{j=1}^{q} C_{Sij} M_{ij}}$$

Where

- H_S = Monthly average, "as applied", organic hazardous air pollutant to coating solids ratio, kilograms organic hazardous air pollutant per kilograms coating solids applied;
- p = Number of different coating materials applied in a month;
- C_{hi} = Organic hazardous air pollutant content of coating materials, i, "as purchased", expressed as a mass fraction, kilograms/kilograms;
- M_i = Mass of "as purchased" coating material, i, applied in a month, kilograms;
- q = Number of different materials added to the coating material;
- C_{hij} = Organic hazardous air pollutant content of material, j, added to "as purchased" coating material, i, expressed as a mass fraction, kilograms/kilograms;
- M_{ij} = Mass of material, j, added to "as purchased" coating material, i, in a month, kilograms;
- M_{vret} = Mass of volatile matter retained in the coated web after curing or drying, or
 otherwise not emitted to the atmosphere, kilograms. The value of this term will be zero in
 all cases except where the owner or operator chooses to take into account the volatile
 matter retained in the coated web or otherwise not emitted to the atmosphere;
- C_{Si} = Coating solids content of coating material, i, expressed as a mass fraction, kilograms/kilograms; and
- C_Sij = Coating solids content of material, j, added to "as purchased" coating material, i, expressed as a mass fraction, kilograms/kilograms.

9.9 <u>Demonstrate compliance using monthly allowable organic hazardous air pollutant applied</u>

In accordance with ARSD 74:36:08:29, as referenced to 40 CFR § 63.3370(a)(3) and (d), the owner or operator may demonstrate compliance with the emission limits in permit condition 6.12 by demonstrating that the total monthly organic hazardous air pollutant applied as determined by Equation 9-7 is less than the calculated equivalent allowable organic hazardous air pollutant as determined by permit condition 8.8.

Equation 9-7 - Calculating total monthly organic hazardous air pollutant applied

$$H_{m} = \sum_{i=1}^{p} C_{hi} M_{i} + \sum_{i=1}^{q} C_{hij} M_{ij} - M_{vret}$$

Where:

- H_m = Total monthly organic hazardous air pollutant applied, kilograms;
- p = Number of different coating materials applied in a month;
- C_{hi} = Organic hazardous air pollutant content of coating material, i, "as purchased", expressed as a mass fraction, kilograms/kilograms;
- M_i = Mass of "as purchased" coating material, i, applied in a month, kilograms;
- q = Number of different materials added to the coating material;
- C_{hij} = Organic hazardous air pollutant content of material, j, added to "as purchased" coating material, i, expressed as a mass fraction, kilograms/kilograms;
- M_{ij} = Mass of material, j, added to "as purchased" coating material, i, in a month, kilograms; and
- M_{vret} = Mass of volatile matter retained in the coated web after curing or drying, or
 otherwise not emitted to the atmosphere, kilograms. The value of this term will be zero in
 all cases except where the owner or operator chooses to take into account the volatile
 matter otherwise not emitted to the atmosphere.

10.0 Performance Tests

10.1 Performance test may be required

In accordance with ARSD 74:36:11:02, the Secretary may request a performance test during the term of this permit. A performance test shall be conducted while operating the unit at or greater than 90 percent of its maximum design capacity, unless otherwise specified by the Secretary. A performance test conducted while operating less than 90 percent of its maximum design capacity will result in the operation being limited to the percent achieved during the performance test. The Secretary has the discretion to extend the deadline for completion of performance test required by the Secretary if circumstances reasonably warrant but will not extend the deadline past a federally required performance test deadline.

10.2 Test methods and procedures

In accordance with ARSD 74:36:11:01, the owner or operator shall conduct the performance test in accordance with 40 CFR Part 60, Appendix A, 40 CFR Part 63, Appendix A, and 40 CFR Part 51, Appendix M. The Secretary may approve an alternative method if a performance test specified in 40 CFR Part 60, Appendix A, 40 CFR Part 63, Appendix A, and 40 CFR Part 51, Appendix M is not federally applicable or federally required.

10.3 Representative performance test

In accordance with ARSD 74:36:07:01, as referenced to 40 CFR § 60.8(c), performance tests shall be conducted under such conditions as the Secretary shall specify to the owner or operator based on the representative performance of the unit being tested. The owner or operator shall make available to the Secretary such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not

constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in this permit.

10.4 Submittal of site-specific test plan

In accordance with ARSD 74:36:11:01 and 74:36:08:03, as referenced to 40 CFR § 63.7(c), the owner or operator shall submit a site-specific test plan to the Secretary at least 60 days before the performance test is initially scheduled to begin. The site-specific test plan shall include a test program summary, the test schedule, data quality objectives, and an internal and external quality assurance program. Data quality objectives are the pretest expectations of precision, accuracy, and completeness of data. The Secretary will notify the owner or operator if the proposed test procedures are approved or denied. If the proposed test procedures are denied, the Secretary will provide written notification that outlines what needs to be completed for approval.

10.5 Notification of test

In accordance with ARSD 74:36:11:03 and 74:36:08:03, as referenced to 40 CFR § 63.7(b), the owner or operator shall notify the Secretary at least 60 days before the performance test is initially scheduled to begin to allow the Secretary to review and approve the proposed test procedures and arrange for an agreeable test date when the Secretary may observe the test. In the event the owner or operator is unable to conduct the performance test on the date specified in the notification due to unforeseeable circumstances beyond his or her control, the owner or operator must notify the Secretary as soon as practicable and without delay prior to the scheduled performance test date and specify the date when the performance test is rescheduled. This notification of delay in conducting the performance test shall not relieve the owner or operator of legal responsibility for compliance with any other applicable provisions of this part or with any other applicable federal, state, or local requirement, nor will it prevent the Secretary from implementing or enforcing this part or taking any other action under the federal Clean Air Act.

10.6 Performance test report

In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall submit a performance test report to the Secretary within 60 days after completing the performance test or by a date designated by the Secretary. The performance test report shall contain the following information:

- 1. A brief description of the process and the air pollution control system being tested;
- 2. Sampling location description(s);
- A description of sampling and analytical procedures and any modifications to standard procedures;
- 4. Test results;
- 5. Quality assurance procedures and results;
- 6. Records of operating conditions during the test, preparation of standards, and calibration procedures;
- 7. Raw data sheets for field sampling and field and laboratory analyses;
- 8. Documentation of calculations;
- 9. All data recorded and used to establish parameters for compliance monitoring; and

10. Any other information.

11.0 Monitoring

11.1 Periodic monitoring for opacity limits

In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall demonstrate compliance with the opacity limits in Chapter 6.0, except for Unit(s) #3, #4a, #4b, #4c, #4d, #4e, #7, #8, #13a, #13b, #14a through #14c, #17 through #22, #24, #25, #27, and #30, on a periodic basis. Periodic monitoring shall be based on the amount of visible emissions from each unit and evaluated according to the following steps:

Step 1: If there are no visible emissions from a unit subject to an opacity limit, periodic monitoring shall consist of a visible emission reading. A visible emission reading shall consist of a visual survey of each unit over a two-minute period to identify if there are visible emissions. The visible emission reading must be conducted while the unit is in operation; but not during periods of startup, shutdown, or malfunctions. Visible emission readings on each unit subject to an opacity limit in Chapter 6.0 shall be based on the following frequency:

- a. The owner or operator shall conduct a visible emission reading once per calendar month;
- If no visible emissions are observed from a unit in six consecutive monthly visible emission readings, the owner or operator may decrease the frequency of readings from monthly to semiannually for that unit; or
- c. If no visible emissions are observed from a unit in two consecutive semiannual visible emission readings, the owner or operator may decrease the frequency of testing of readings from semiannually to annually for that unit.

Step 2: If visible emissions are observed from a unit at any time other than periods of startup, shutdown, or malfunction, the owner or operator shall conduct a visible emission test on that unit to determine if the unit is in compliance with the opacity limit specified in Chapter 6.0. The emission test shall be for six minutes and conducted in accordance with 40 CFR Part 60, Appendix A, Method 9. The visible emission test must be conducted while the unit is in operation; but not during periods of startup, shutdown, or malfunctions. Visible emission tests shall be based on the following frequency:

- a. The visible emission test must be conducted within one hour of witnessing a visible emission from a unit during a visible emission reading;
- b. If the visible emission test required in Step 2(a) results in an opacity value less than or equal to 50 percent of the opacity limit for the unit, the owner or operator shall perform a visible emission test once per month;
- If the opacity value of a visible emission test is less than five percent for six straight monthly tests, the owner or operator may revert back to monthly visible emission readings as required in Step 1;

- d. If the visible emission test required in Steps 2(a) or 2(b) results in an opacity value greater than 50 percent of the opacity limit but less than the opacity limit, the owner or operator shall perform a visible emission test once per week; or
- e. If the visible emission test in Step 2(d) results in an opacity value less than or equal to 50 percent of the opacity limit for six straight weekly readings, the owner or operator may revert back to a monthly visible emission test as required in Step 2(b).

The person conducting the visible emission test must be certified in accordance with 40 CFR Part 60, Appendix A, Method 9. If a visible emission test is required before a person is certified in accordance with permit condition 11.2, the owner or operator shall notify the Secretary within 24 hours of observing the visible emissions to schedule a visible emission test performed by a state inspector.

11.2 Certified personnel - visible emission tests

In accordance with ARSD 74:36:13:07, within 180 days after permit issuance the owner or operator shall retain a person that is certified to perform a visible emission test in accordance with 40 CFR Part 60, Appendix A, Method 9. The owner or operator shall retain a certified person throughout the remaining term of this permit.

11.3 Monitoring sulfur content of distillate oil

In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall obtain a fuel supplier certification for each load of distillate oil purchased or received. The fuel supplier certification shall include the following information:

- 1. The name of the oil supplier;
- A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil. Distillate oil means fuel oil that complies with the specifications for fuel oil numbers 1 or 2. Specifications for fuel oils are defined in the American Society for Testing and Materials in ASTM D396-78, "Standards Specifications for Fuel Oils";
- For distillate oil, a statement that the sulfur content of the distillate oil does not exceed 0.05
 weight percent sulfur; and
- 4. For distillate oil burned in Unit #25, a statement that the sulfur content of the oil does not exceed the weight percent sulfur required in permit condition 12.2.

In the case where a fuel supplier certification is not obtained for a shipment of distillate oil, the owner or operator shall collect a grab sample from the storage tank in which the shipment is being stored within 30 days of receiving the shipment of distillate oil but before another load of distillate oil is transferred into the storage tank. The grab sample shall be analyzed to determine the sulfur content of the distillate oil in the storage tank. A copy of the results of the distillate oil analysis shall be submitted with the semiannual report required in permit condition 5.11.

12.0 Requirements for Unit #25 and #31

12.1 Emission standards for generators

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR §§ 60.4201(a), 60.4202(a)(2), 60.4204(b), 60.4205(b), and 60.4206, the owner or operator shall operate and maintain Unit #25 and #31 that achieves the emission limits listed in Table 12-1 over the life of the generator.

Table 12-1 – Generator Emission Standards

Unit	Nonmethane Hydrocarbons and Nitrogen Oxides	Carbon Monoxide	Total Suspended Particulate
#25	4.0 grams/kilowatt-hour	3.5 grams/kilowatt-hour	0.2 grams/kilowatt-hour
#31	4.0 grams/kilowatt-hour	3.5 grams/kilowatt-hour	0.2 grams/kilowatt-hour

12.2 Fuel requirements for generators

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR § 60.4207(b), the owner or operator shall only combust diesel fuel in Unit #25 and #31 that meets the following per gallon standards:

- 1. Maximum sulfur content of 15 parts per million (0.0015%); and
- 2. Minimum centane index of 40; or
- 3. Maximum aromatic content 35 percent by volume.

12.3 Compliance with generator emission limits

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR § 60.4211(c), the owner or operator shall demonstrate compliance with the emission limits in permit condition 12.1 by the following methods, except as specified in permit condition 12.5:

- 1. Purchase a generator certified to the emission standards in permit condition 12.1; and
- Install and configure the generator according to the manufacturer's emission-related specifications.

12.4 Operating requirements for generators

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR § 60.4211(a), the owner or operator shall comply with the following, except as specified in permit condition 12.5:

- Operate and maintain the generator according to the manufacturer's emission-related written instructions:
- 2. Change only those emission-related settings that are permitted by the manufacturer; and
- 3. Meet the applicable requirements in 40 CFR Part 89, 94, and/or 1068.

12.5 Alternative requirements for generators

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR § 60.4211(g)(2), if the owner or operator does not install, configure, operate, and maintain Unit #25 and/or #31 according to the manufacturer's emission-related written instructions or changes the emission-related settings in a

way that is not permitted by the manufacturer, the owner or operator must demonstrate compliance as follows:

- 1. Maintain a maintenance plan and records of conducted maintenance;
- 2. To the extent practicable, maintain and operate the generator in a manner consistent with good air pollution control practice for minimizing emissions;
- 3. Conduct an initial performance test to demonstrate compliance with the emission limits in permit condition 12.1 within 1 year of startup, within 1 year after the generator is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after the owner or operator changes emission-related settings in a way that is not permitted by the manufacturer; and
- 4. The owner or operator shall conduct subsequent performance testing on Unit #25 every 8,760 hours of generator operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the emission limits in permit condition 12.1.

12.6 Performance test requirements for generators

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR § 60.4212(a) and (c), if the owner or operator conducts a performance test to demonstrate compliance with permit condition 12.1, the following procedures shall be followed, except as provided in permit condition 12.7:

- The performance test must be conducted according to the in-use testing procedures in 40 CFR Part 1039, Subpart F; and
- Exhaust emissions from the generator must not exceed the "NTE" numerical requirements, rounded to the same number of decimal places as the applicable emission limit in permit condition 12.1 and determined by Equation 12-1.

Equation 12-1 – NTE formula

 $NTE = 1.25 \times STD$

Where:

- NTE = Numerical requirement for each pollutant identified in Table 12-1; and
- STD = Emission limit for each pollutant identified in Table 12-1

12.7 Alternative performance test requirements for generators

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR §§ 60.4212(c) and 60.4213, the owner or operator may use the following performance test procedures to demonstrate compliance with permit condition 12.1:

- The performance test must be conducted according to the requirements in 40 CFR § 60.8 and under the specific conditions in Table 7 of 40 CFR Part 60, Subpart IIII. The test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load;
- 2. The owner or operator may not conduct the performance test during periods of startup, shutdown, or malfunction;
- The owner or operator shall conduct three separate test runs for each performance test and each test run must last at least 1 hour; and

 To determine compliance with the particulate matter mass per unit output emission limit, convert the concentration of particulate matter in the engine exhaust using Equation 12-2.

Equation 12-2 - Particulate matter conversion

$$ER = \frac{C_{adj} \times Q \times T}{KW - hour}$$

Where:

- ER = Emission rate, in grams per KW-hour;
- C_{adj} = Calculated particulate matter concentration, in grams per standard cubic meter;
- Q = Stack gas volumetric flow rate, in standard cubic meter per hour;
- T = Time of test run, in hours; and
- KW-hour = Energy output of engine, in kilowatts.

13.0 40 CFR Part 63 Subpart ZZZZ Exemption

13.1 Exemption for Unit #25 (Generator #2)

In accordance with ARSD 74:36:08:40, as referenced in 40 CFR § 63.6590(b)(i), Unit #25 is exempt from the requirements in 40 CFR Part 63, Subpart ZZZZ provided Unit #25 does not operate or is not contractually obligated to be available for more than 15 hours per calendar year for the following purposes:

- Unit #25 may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see 40 CFR § 63.14), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3; and
- 2. Unit #25 may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

13.2 Maintaining exemption status for Unit #25 (Generator #2)

In accordance with ARSD 74:36:08:40, as referenced in 40 CFR § 63.6640(f), the owner or operator may maintain Unit #25's status as an emergency generator and exempt from 40 CFR Part 60, Subpart ZZZZ, provided the owner or operator meet the following requirements:

- There is no time limit on the use of Unit #25 in emergency situations;
- 2. The owner or operator may operate Unit #25 for any combination of following purposes for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by subparagraph (3) of this permit condition counts as part of the 100 hours per calendar year:
 - a. Unit #25 may be operated for maintenance checks and readiness testing, provided the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission

operator, or the insurance company associated with the engine. The owner or operator may petition the Secretary for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year; and

- b. Unit #25 may be operated as specified in permit condition 13.1;
- 3. Unit #25 may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in subparagraph (2) of this permit condition. The 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for the owner or operator to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity;

13.3 Exemption for Unit #27 (Generator #1)

In accordance with ARSD 74:36:08:40, as referenced in 40 CFR § 63.6590(b)(3)(iv), Unit #27 is exempt from the requirements in 40 CFR Part 63, Subpart ZZZZ provided the owner or operator does not operate Unit #27 for more than 100 hours during any calendar year.

13.4 Monitoring requirements for Unit #25 and #27

In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall install, maintain, and operate a non re-settable clock on Unit #25 and #27. The clock shall continuously record the hours of operation of each unit. The owner or operator shall maintain a daily log of the hours of operations if the non re-settable clock is inoperable.

13.5 Recordkeeping requirements for Unit #25 and #27

In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall maintain a monitoring log that contains the following information:

- 1. The number of hours Unit #25 and #27 operated and the reason each unit operated; and
- 2. The total number of hours Unit #25 and #27 operated during each calendar year.

14.0 40 CFR Part 60 Subpart Dc

14.1 Changing boiler fuels

In accordance with ARSD 74:36:07:05, as referenced to 40 CFR § 60.40c, Unit #28 shall be fueled with natural gas and distillate oil only and Unit #29 shall be fueled with natural gas only. If the boilers are fueled with other fuels such as propane, coal, other oil, or wood, additional standards and requirements in 40 CFR Part 60, Subpart Dc may apply. The owner or operator shall apply for and obtain approval from the Secretary before other fuels can be used as a fuel in Unit #28 and #29.

Distillate oil means fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396 or diesel fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D975.

Unit #28 burns natural gas only.

14.2 Sulfur dioxide limits

In accordance with ARSD 74:36:07:05, as referenced to 40 CFR § 60.42c(d), (h), and (i), the owner or operator shall not burn distillate oil containing greater than 0.5 weight percent sulfur in Unit #28. Compliance with the fuel oil sulfur limit shall be determined based on a certification from the fuel supplier. The fuel certification must include the information in permit condition 14.8. The sulfur dioxide emission limits and fuel oil sulfur limits apply at all times, including periods of startup, shutdown, and malfunction.

14.3 Opacity limits

In accordance with ARSD 74:36:07:05, as referenced to 40 CFR § 60.43c(c) and (d), the owner or operator shall not discharge into the atmosphere from Unit #28 any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity. The opacity standard applies at all times, except during periods of startup, shutdown, and malfunction.

14.4 Initial sulfur dioxide performance test

In accordance with ARSD 74:36:07:05, as referenced to 40 CFR § 60.44c(h), the owner or operator shall demonstrate compliance with the sulfur dioxide limit in permit condition 14.2 based on fuel supplier certification. The initial performance test shall consist of the certification from the fuel supplier and contain the information listed in permit condition 14.8.

14.5 Initial opacity performance test

In accordance with ARSD 74:36:07:05, as referenced to 40 CFR §§ 60.45e(a)(8) and 60.47e(a), the owner or operator shall conduct an initial opacity performance test on Unit #28 while burning distillate oil using Method 9 of Appendix A-4 in 40 CFR Part 60 to demonstrate compliance with the limits in permit condition 14.3. The initial opacity performance test shall be conducted the first time distillate oil is burned in Unit #28 after this permit is issued. If during the initial 60 minutes of observation all 6 minute averages are less than 10 percent and all individual 15 second observations are less than or equal to 20 percent, the observation period may be reduced from 3 hours to 60 minutes.

14.6 Subsequent opacity performance tests

In accordance with ARSD 74:36:07:05, as referenced to 40 CFR § 60.47c(a)(1), the owner or operator shall conduct subsequent Method 9 performance tests according to the following schedule, as determined by the most recent Method 9 performance test results:

 If no visible emissions are observed, a subsequent Method 9 performance test must be completed within 12 calendar months from the date that the most recent performance test was conducted;

- 2. If visible emissions are observed but the maximum 6-minute average opacity is less than or equal to 5 percent, a subsequent Method 9 performance test must be completed within 6 calendar months from the date that the most recent performance test was conducted;
- 3. If the maximum 6-minute average opacity is greater than 5 percent but less than or equal to 10 percent, a subsequent Method 9 performance test must be completed within 3 calendar months from the date that the most recent performance test was conducted; or
- 4. If the maximum 6-minute average opacity is greater than 10 percent, a subsequent Method 9 performance test must be completed within 45 calendar days from the date that the most recent performance test was conducted.

14.7 Alternative performance test method

In accordance with ARSD 74:36:07:05, as referenced to 40 CFR § 60.47c(a)(2) and (3), if the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 performance test, the owner or operator may, as an alternative to performing subsequent Method 9 performance test elect to perform subsequent monitoring using one of the following options:

- Perform subsequent monitoring using Method 22 in Appendix A-7 of 40 CFR Part 60 according to the following procedures:
 - a. Conduct 10 minute observations (during normal operation) each operating day a fuel is fired for which an opacity standard is applicable using Method 22 and demonstrate that the sum of the occurrences of any visible emissions is not in excess of 5 percent of the observation period (i.e., 30 seconds per 10 minute period). If the sum of the occurrence of any visible emissions is greater than 30 seconds during the initial 10 minute observation, immediately conduct a 30 minute observation. If the sum of the occurrence of visible emissions is greater than 5 percent of the observation period (i.e., 90 seconds per 30 minute period) the owner or operator shall either document and adjust the operation of the unit and demonstrate within 24 hours that the sum of the occurrence of visible emissions is equal to or less than 5 percent during a 30 minute observation (i.e., 90 seconds) or conduct a new Method 9 performance test using the procedure in permit condition 14.5 within 45 calendar days.
 - b. If no visible emissions are observed for 30 operating days during which an opacity standard is applicable, observations can be reduced to once every 7 operating days during which an opacity standard is applicable. If any visible emissions are observed, daily observations shall be resumed; or
- 2. Perform subsequent monitoring using a digital opacity compliance system according to a site-specific monitoring plan approved by the Secretary.

 None of the boilers are

14.8 Monitoring sulfur content in distillate oil

equipped to burn distillate oil; natural gas only \$ 60.48c(f)(1), the owner or

In accordance with ARSD 74:36:07:05, as referenced to 40 CFR § 60.48e(f)(1), the owner or operator shall obtain a fuel supplier certification for each load of distillate oil purchased or received. The fuel supplier certification shall include the following information:

- The name of the oil supplier;
- A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil given in permit condition 14.1; and

3. A statement that the sulfur content of the oil does not exceed 0.5 weight percent sulfur.

14.9 Monitoring records

In accordance with ARSD 74:36:07:05, as referenced to 40 CFR § 60.48c(c), (e)(11), and (i), the owner or operator shall maintain records of the following information for each day Unit #28 operates:

- 1. Records of visible emission monitoring applicable to the method used:
 - a. For each visible emission performance test using Method 9 of Appendix A-4 in 40 CFR Part 60, the owner or operator shall keep the following records:
 - i. Dates and time intervals of all opacity observation periods;
 - ii. Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and
 - iii. Copies of all visible emission observer opacity field data sheets;
 - b. For each visible emission performance test using Method 22 of Appendix A-7 in 40 CFR Part 60, the owner or operator shall keep the following records:
 - i. Dates and time intervals of all visible emissions observation periods;
 - ii. Name and affiliation for each visible emission observer participating in the performance test;
 - iii. Copies of all visible emission observer opacity field data sheets; and
 - iv. Documentation of any adjustments made and the time the adjustments were completed to Unit #28 to demonstrate compliance with the applicable monitoring requirements;
 - c. For each digital opacity monitoring system, the owner or operator shall maintain records and submit reports according to the requirements specified in the site-specific monitoring plan; and
- 2. Records of fuel suppliers' certifications.

The records must be maintained for a minimum of two years from the date of such record.

14.10 Monthly records

In accordance with ARSD 74:36:07:05, as referenced to 40 CFR § 60.48c(g)(2) and (i), the owner or operator shall record and maintain records of the amount of each fuel combusted during each calendar month in Unit #28 and #29. The monthly records must be maintained for a period of two years following the date of such record.

14.11 Semiannual reporting

In accordance with ARSD 74:36:07:05, as referenced to 40 CFR § 60.48c(c), (d), (e), and (j), the owner or operator shall submit a semiannual compliance report to the Secretary. The semiannual report shall contain the following information:

- Name of facility, permit number, reference to this permit condition, and identification of the submittal as a semiannual compliance report;
- Statement by a responsible official with that official's name, title, and signature certifying the
 accuracy of the content of the report and that the records of the fuel supplier certifications
 submitted represent all of the fuel combusted during the reporting period;

- 3. Calendar dates covered in the reporting period;
- 4. A copy of the fuel supplier certifications obtained during the reporting period; and
- 5. A copy of any visible emission monitoring which resulted in excess emissions.

The semiannual reports shall cover the periods January 1 through June 30 and July 1 through December 31 of each year. The semiannual reports must be postmarked or delivered no later than January 31 or July 31 of each year. The reporting requirements in this permit condition may be included with other semiannual reports required in this permit.

